Link View CBL2MP
User Manual

Please find the latest version of the manual and firmware at www.linkcom.fr

LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)

WARNINGS

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

DO NOT INSERT ANY METALLIC OBJECT THROUGH VENTILATION GRILLS.

CAUTION

<table>
<tr><td> </td><td>CAUTION
DO NOT CHANGE THE LENS</td><td> </td></tr>
<tr><td colspan="3">CAUTION: THIS CAMERA DESIGN IS BASED ON THE INCLUDED LENS. LENS REPLACEMENT MAY CAUSE INSTABILITY OF IMAGE QUALITY.
PLEASE REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</td></tr>
</table>

COPYRIGHT

THE TRADEMARKS MENTIONED IN THE MANUAL ARE LEGALLY REGISTERED TO THEIR RESPECTIVE COMPANIES.

CONTENT

I. Preface 4
II. Product Specifications 4
III. Product Installation 7
A. Monitor Setting 7
B. Hardware Installation 8
C. IP Assignment 13
D. Install ActiveX control 15
IV. Live Video 18
V. IP Camera Configuration 19
A. System 21
B. Network 25
C. A/V Setting 41
D. Event List 46
VI. Network Configuration 54
VII. I/O Configuration 56
VIII. Factory Default 58
IX. Package contents 59
X. Micro SD Card Compatibility 60

I. Preface

This IP Camera is a Full HD Vandal Dome IP camera with the web server built in. User can view real-time video via IE browser. IP Camera supports simultaneously H.264, Motion JPEG & MPEG4 video compression and dual streaming which provides smooth and high video quality. The video can be stored in the SD card and played back remotely. With user friendly interface, it is an easy-to-use IP camera which is designed for security application.

II. Product Specifications

Main Features:

- Full HD 1080P Real Time
- 3D+2D Digital Noise Reduction
- Digital Wide Dynamic Range
- Day&Night Switch time control manully
- IR Distance 15 Meter
- Vandal proof
- Power over Ethernet available
- H.264/ M-JPEG / MPEG4 compression
- SD card backup
- Operating Temperature -30°C~50°C with heater(option)
- Support iPhone/Android/Mac
- Triple Streaming
- SDK for Software Integration
- Free Bundle 36 ch recording software

Specifications

Hardware	
CPU	ARM Cortex A9
RAM	256MB
Flash	16MB
Image sensor	1 / 2.7” 2Megapixel CMOS sensor
Lens Type	Vari-focal Lens 3~9mm @F1.8
Sensitivity	Color : 0.1 Lux (AGC ON) B / W: 0.05 Lux (AGC ON)
ICR	Mechanism IR cut Filter (optional)

LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)

LED	Built-in 18 IR LED IR Distance-15M
Audio	G.711(64K) / G.726(24Kbps/32kbps) audio compression Input : External Mic in Output : External Audio out
Video Output	Yes
I/O	1 DI / 1 DO
Power over Ethernet	Yes
Power	DC 12V Max: 5.52W(IR On), 4.08W(IR Off) PoE Max: 802.3af, 6.72W(IR On), 5.28W(IR Off)
Operating Temperature	-10°C ~ 50°C/-30°C~50°C(option)
Dimensions	126mm (W) x 126mm (L) x 100mm (D)
Weight	1300g
Network	
Ethernet	10/ 100 Base-T
Network Protocol	HTTP, HTTPS, SNMP, QoS/DSCP, Access list, IEEE 802.1X, RTSP, TCP/IP, UDP, SMTP, FTP, PPPoE, DHCP, DDNS, NTP, UPnP, 3GPP, SAMBA, Bonjour
System	
Video Resolution	1920x1080@30fps, 1280x720@30fps, 640x480@30fps, 320x240@30fps, 176x144@30fps
Video Adjust	Brightness, Contrast, Hue, Saturation, Sharpness, AGC, Shutter Time, Sense-Up, WDR, Flip, Mirror, Noise reduction, White Balance, Day&Night adjustable
Triple Streaming	Yes
Image Snapshot	Yes
Full Screen Monitoring	Yes
Privacy Mask	Yes, 3 different areas
Compression Format	H.264/ M-JPEG/ MPEG4
Video Bitrates Adjust	CBR, VBR
Motion Detection	Yes, 3 different areas
Triggered Action	Mail, FTP, Save to SD card, DO, SAMBA
Security	Password protection, IP address filtering, HTTPS encrypted data transmission, 802.1X port-based authentication for network protection, QoS/DSCP
Firmware Upgrade	HTTP mode, can be upgraded remotely
Simultaneous Connection	Up to 10
Micro SD card management	

LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)

Recording Trigger		Motion Detection, IP check, Network break down (wire only),Schedule, DI
Video Format		AVI, JPEG
Video Playback		Yes
Delete Files		Yes
Web browsing requirement		
OS		Windows 7, 2000, XP, 2003, Microsoft IE 6.0 or above, Chrome, Safari, Firefox
Mobile support		iOS 4.3 or above, Android 1.6 or above
Hardware	Suggested	Intel Dual Core 2.53G,RAM: 1024MB, Graphic card: 128MB
	Minimun	Intel-C 2.8G, RAM: 512MB, Graphic card: 64MB

*SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

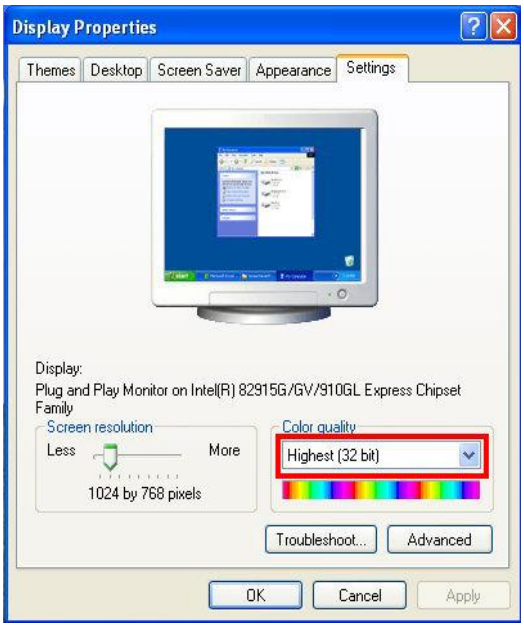
LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)

III. Product Installation

A. Monitor Setting

1. Right-Click on the desktop. Select “ Properties”

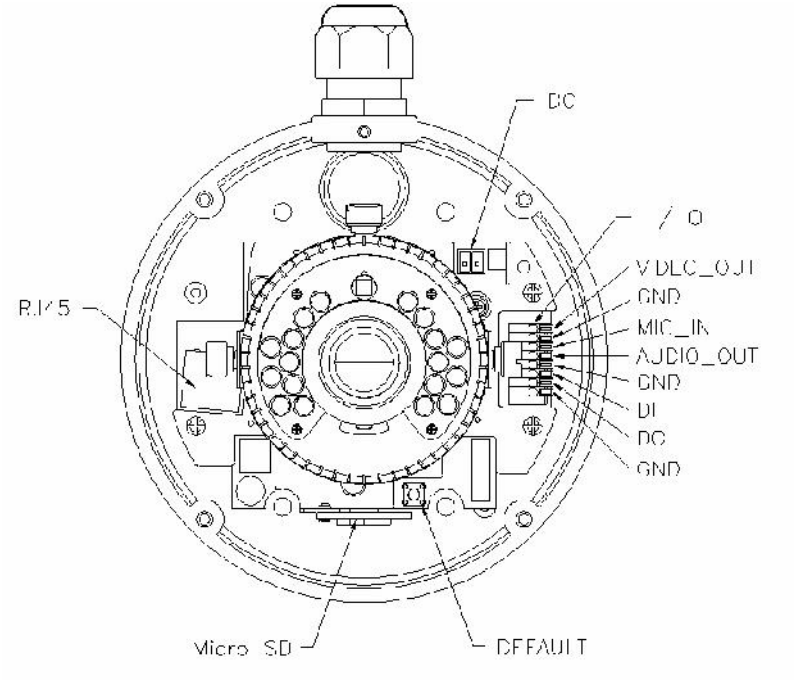
2. Change color quality to highest (32bit).



B. Hardware Installation

1. Connector Instruction

Remove the dome cover, and you will see the structure as below.



Connect power adaptor, then connect the IP camera to PC or network. Set up the network configurations according to the network environment. About I/O setting, please refer to chapter VII in User Manual: "I/O Configuration" for detail.

The following picture shows a DC 12V connector for adapter jack plug.

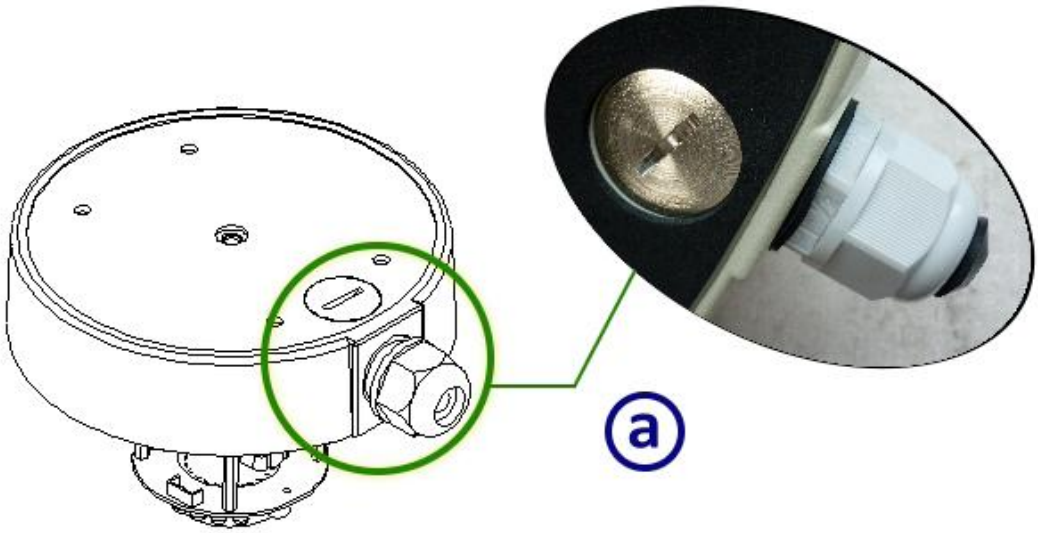
2. Vandal Dome Installation Tips

In order to ensure IP66 waterproof level, please install the vandal dome according to the instruction.

a. The Unused cable outlet hole must be closed, and the

LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)

waterproof connector on the used hole must be locked closely.

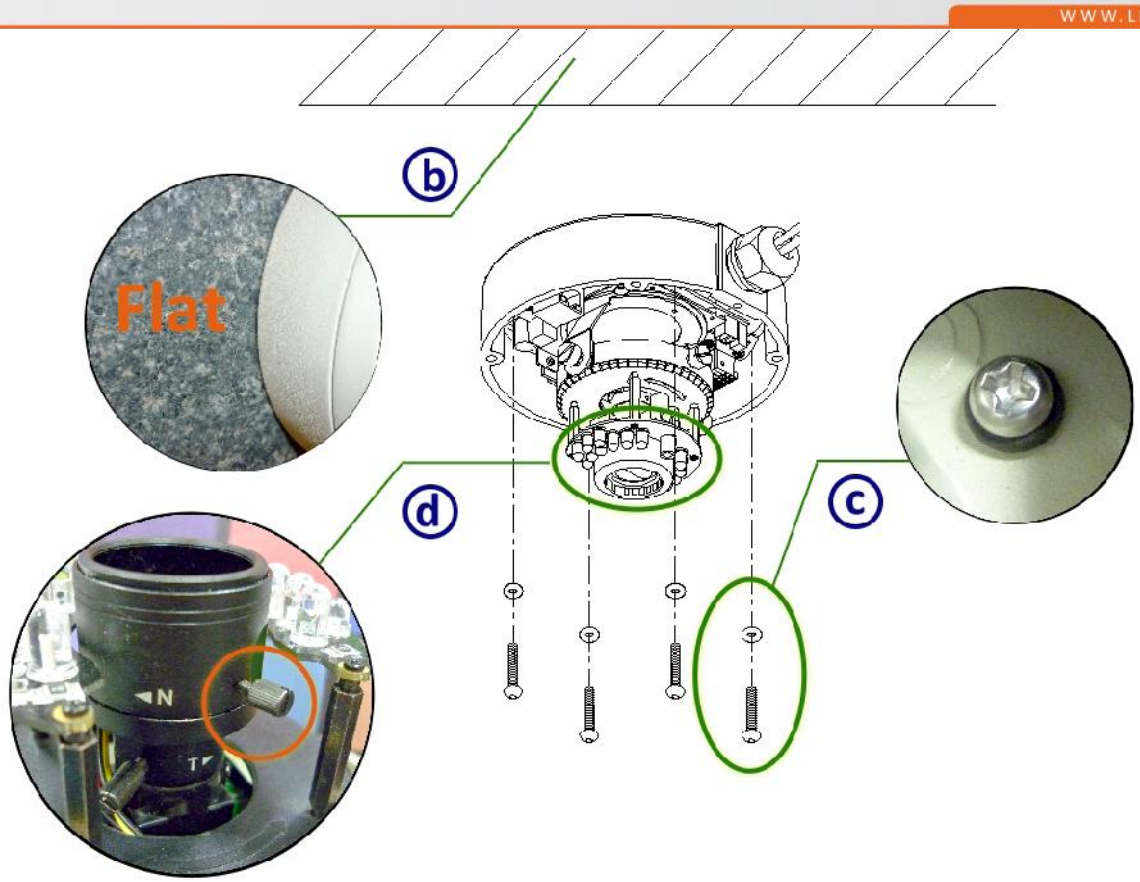


b. We recommend the bottom of housing be set on the smooth flat and closely seal with the surface.

c. When you mount the camera housing on the ceiling or wall, please use the screws with the black rubber o-rings. Without the o-ring, the water may seep into the machine.

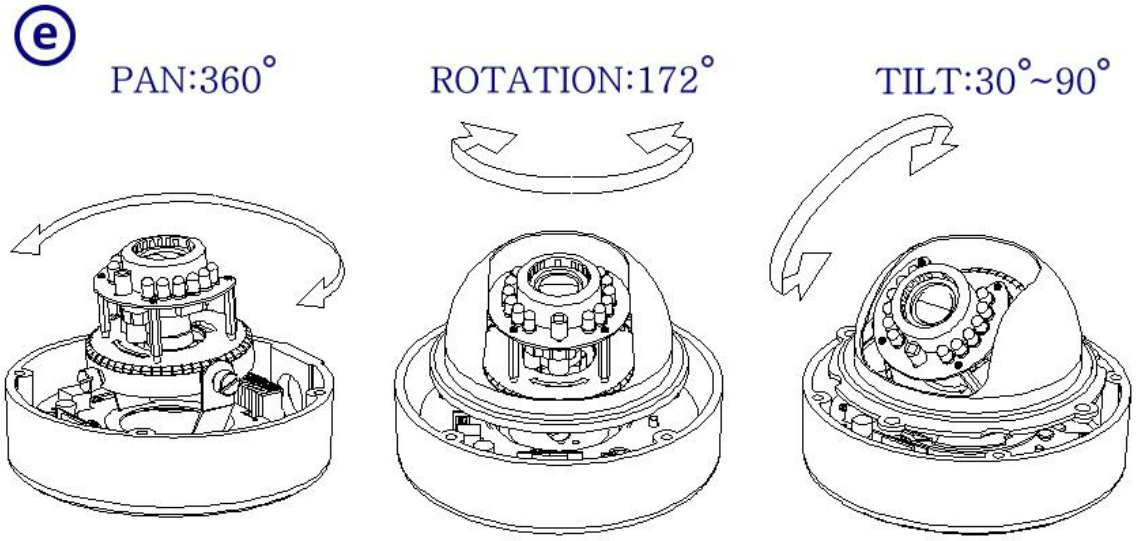
d. Turn and loose the control stick, shift right and left to adjust the vari-focal lens until the image becomes clear, then turn and tighten the stick to fix it.

LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)



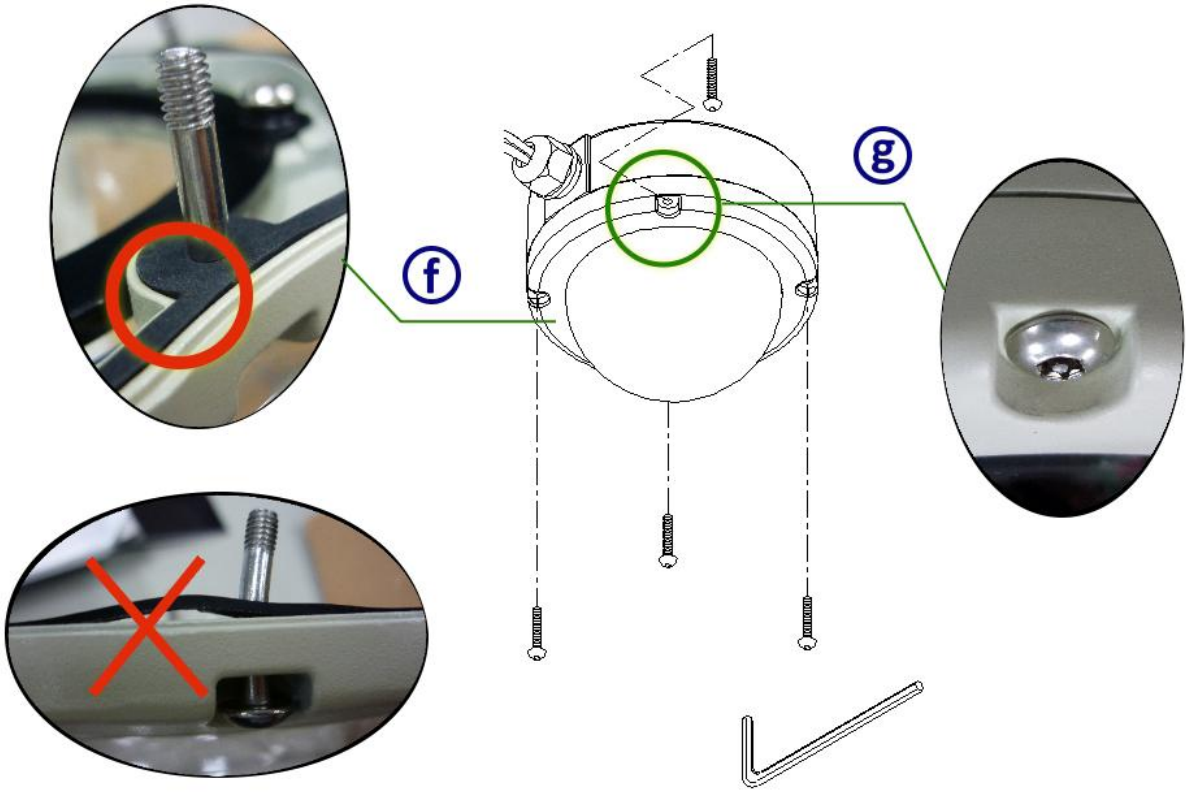
LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)

e. Use the 3-Axis bracket to adjust the camera to appropriate angle.



f. Before you close the dome cover, make sure that the black rubber band sticks to the inside of the cover completely. Crook or uneven rubber band may cause the waterproof defective.

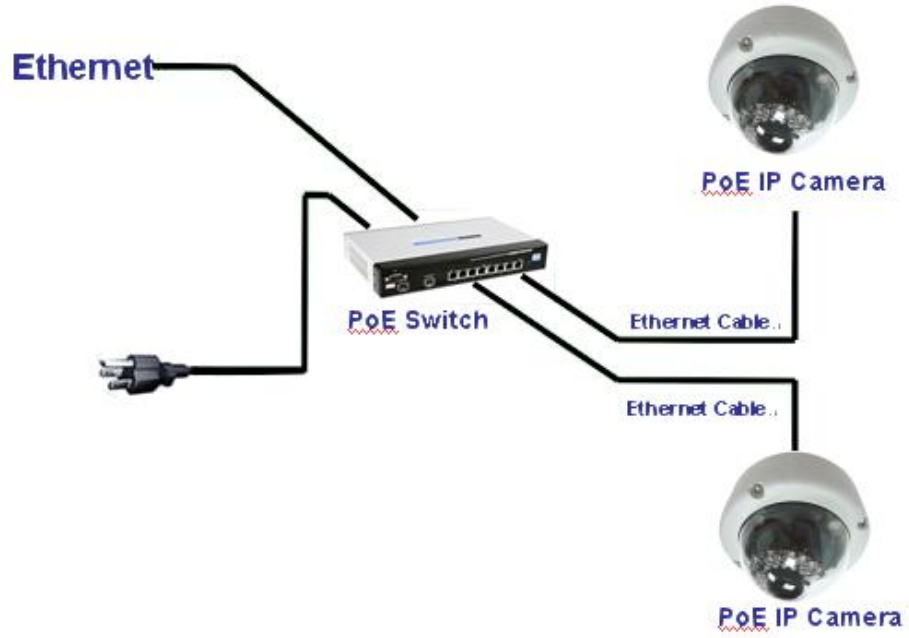
g. Lock tightly the screws on the dome cover to ensure there's no gap between the lid and base.



LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)

3. PoE (Power Over Ethernet)(Optional) 802.3at, 30.0W PoE Switch is recommended

Power over Ethernet (PoE) is a technology that integrates power into a standard LAN infrastructure. It enables power to be provided to the network device, such as an IP phone or a network camera, using the same cable as that used for network connection. It eliminates the need for power outlets at the camera locations and enables easier application of uninterruptible power supplies (UPS) to ensure 24 hours a day, 7 days a week operation.



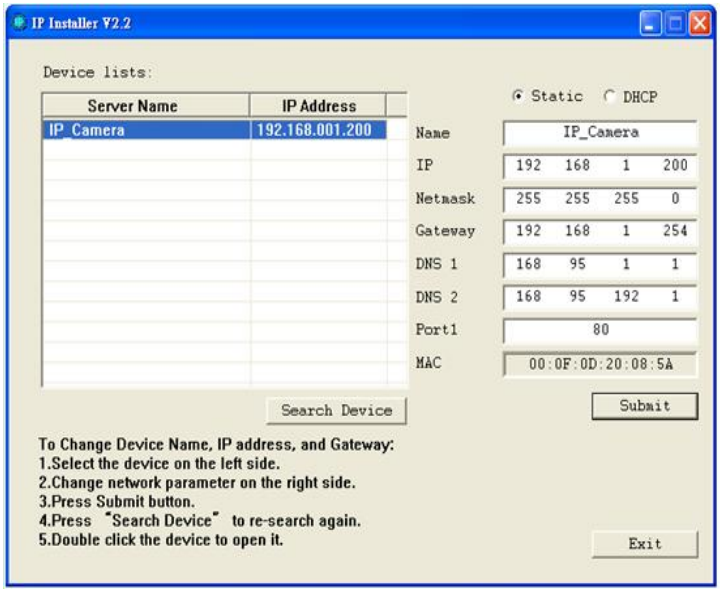
LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)

C. IP Assignment

1. You can use the software“IP Installer” to assign the IP address of IP Camera. The software is in the attached CD.
2. There are two language versions of IP installer. Choose one as your need:
   IPInstallerCht.exe: Chinese version
   IPInstallerEng.exe: English version
3. There are 3 kinds of IP configuration.
   a. Fixed IP (Public IP or Virtual IP)
   b. DHCP (Dynamic IP)
   c. Dial-up (PPPoE)
4. Execute IP Installer
5. For Windows XP SP2 user, the following message box may pop up. Please click “Unblock”.

Windows Security Alert
To help protect your computer, Windows Firewall has blocked some features of this program.
Do you want to keep blocking this program?
Name: IPInstaller V2.1 Network Device Scan
Publisher: Unknown
Keep Blocking
Unblock
Ask Me Later
Windows Firewall has blocked this program from accepting connections from the Internet or a network. If you recognize the program or trust the publisher, you can unblock it. When should I unblock a program?

6. IP Installer configuration:



7. IP Installer will search for all IP Cameras connected on Lan. Click “Search Device” to refresh the result list.
8. Click one of the IP Camera listed on the left side. The network configuration of this IP camera shows on the right side. You may change the “name” of the IP Camera as your preference (eg: Office, warehouse). Change the parameter and click “Submit” . It will apply the change and reboot the Device.

9. Please make sure that the IP address of your PC and IP Camera are on the same subnet.

The same Subnet:

IP CAM IP address: 192.168.1.200

PC IP address: 192.168.1.100

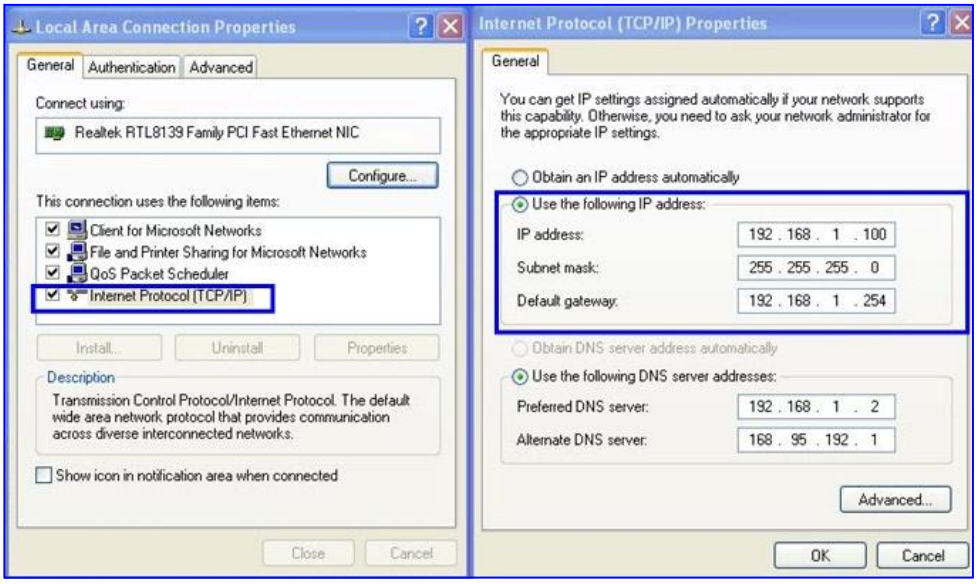
Different Subnets:

IP CAM IP address: 192.168.2.200

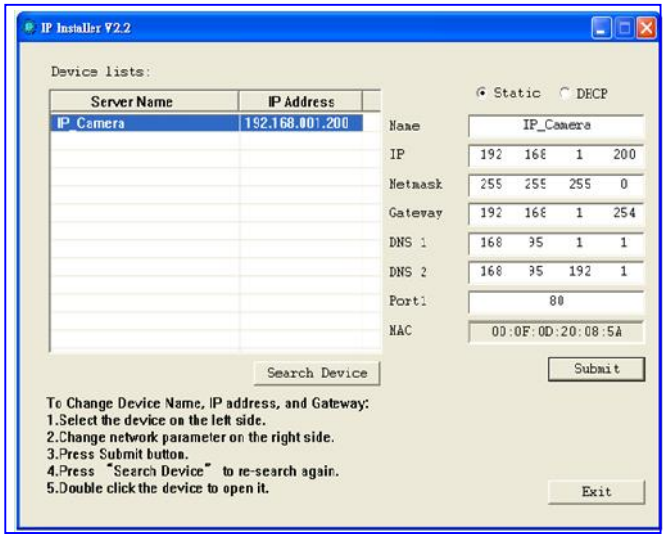
PC IP address: 192.168.1.100

To Change PC IP address:

Control Panel→Network Connections→ Local Area Connection Properties→ Internet Protocol (TCP/IP) → Properties


Local Area Connection Properties
General
Authentication
Advanced
Connect using:
Realtek RTL8139 Family PCI Fast Ethernet NIC
Configure...
This connection uses the following items:
Client for Microsoft Networks
File and Printer Sharing for Microsoft Networks
QoS Packet Scheduler
Internet Protocol (TCP/IP)
Install...
Uninstall
Properties
Description
Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.
Show icon in notification area when connected
Close
Cancel
Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address: 192 . 168 . 1 . 100
Subnet mask: 255 . 255 . 255 . 0
Default gateway: 192 . 168 . 1 . 254
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server: 192 . 168 . 1 . 2
Alternate DNS server: 168 . 95 . 192 . 1
Advanced...
OK
Cancel

10. A quick way to access remote monitoring is to double-click the selected IP Camera listed on “Device list” of IP Installer. An IE browser will be opened.



11. If you link to the IP Camera successgully, there pops a box asking you to log in. Please key in the default user name"admin" and password"admin" when you link to the IP Camera for the first time. You can revise the user name and password later. Please refer to Chapter V: "A.2. UserManagement".

D. Install ActiveX control

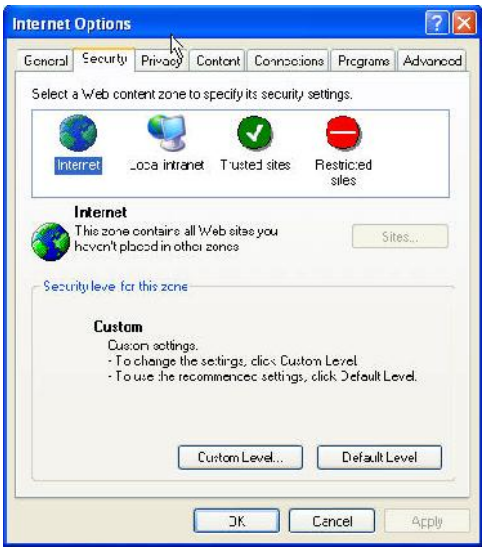
For the first time to view the camera video via IE, it will ask you to install the ActiveX component.

If the installation failed, please check the security setting for the IE browser.

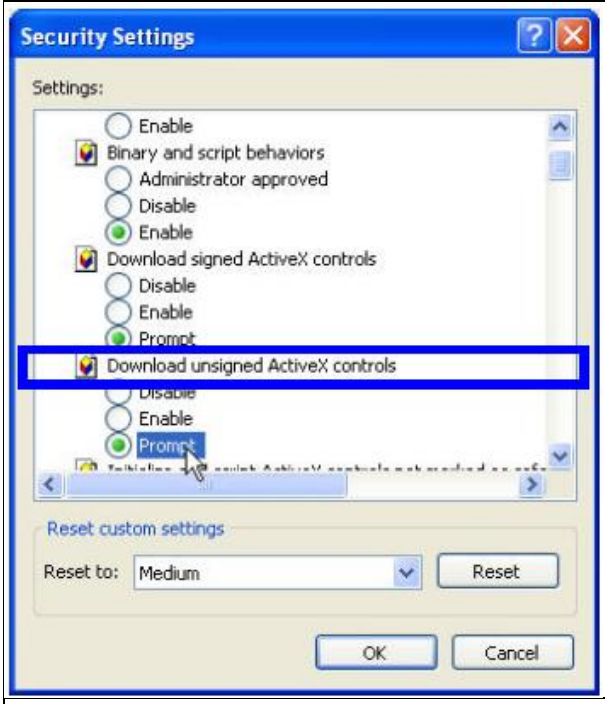
1. IE→Tools → Internet Options… → Security Tab → Custom Level… → Security Settings → Download unsigned ActiveX controls→ Select “Enable” or Prompt.
2. IE → Tools → Internet Options… → Security Tab → Custom Level… →Initialize and script ActiveX controls not marked as safe → Select “Enable” or Prompt.

1

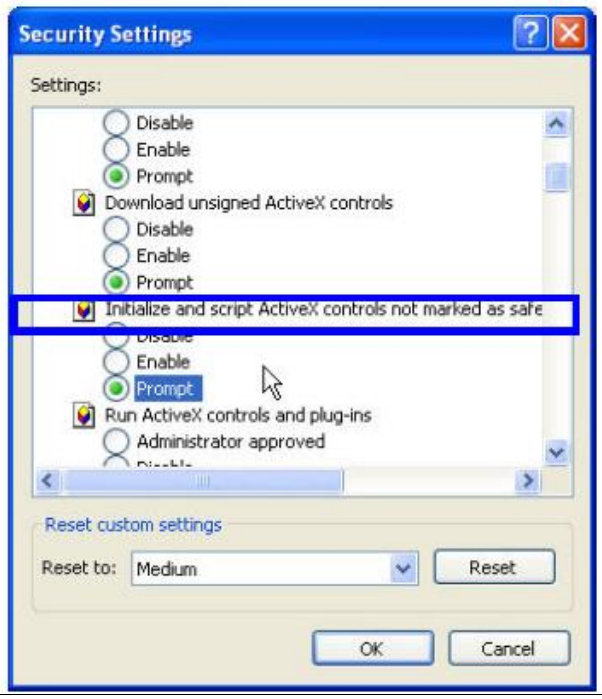
2



3



4



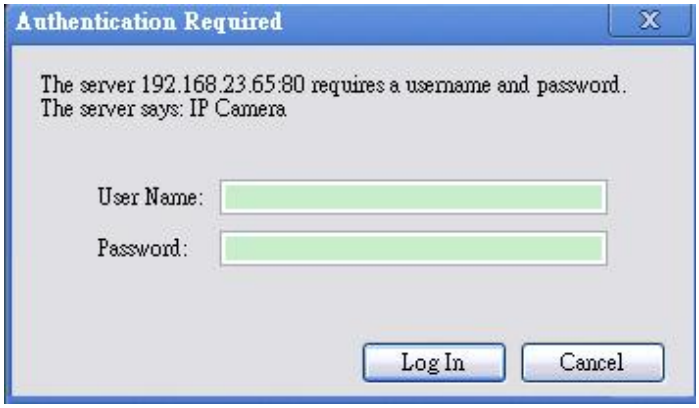
5

When popup the following dialogue box, click “Yes”.

LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)

IV.Live Video

Start an IE browser, type the IP address of the IP camera in the address field. It will show the following dialogue box. Key-in the user name and password. The default user name and password are “admin” and “admin”.

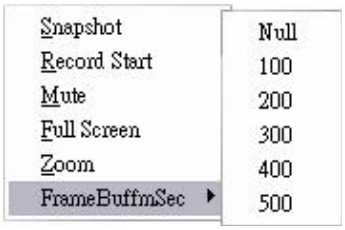


When the IP Camera is connected successfully, it shows the following program interface.

LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)

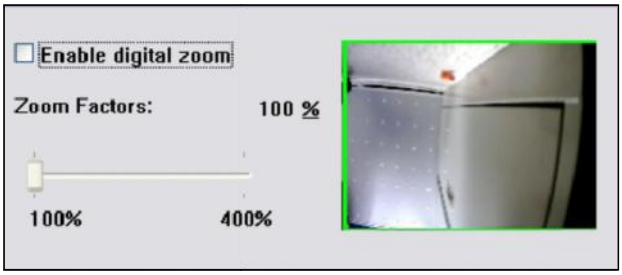
1. : Get into the administration page
2. : Video Snapshot

3. Show system time, video resolution, and video refreshing rate
4. Adjust image, 1/2x, 1x, 2x
5. Select video streaming source (If in"Video Setting" the streaming 2 setting is closed, this option will not appear here.)
6. IP Camera supports 2-way audio. Click the "Chatting" check box, then you can use microphone connected to the PC to talk to the Camera side.
7. Show how many people connect to this IP camera.
8. Tick the Relay out "ON" box to trigger the relay output for testing. Tick "Off" to stop triggering.



Right-Click the mouse on the video, it will show a pop-up menu.

1. Snapshot: Save a JPEG picture
2. Record Start: Record the video in the local PC. It will ask you where to save the video. To stop recording, right-click the mouse again. Select "Record Stop". The video format is AVI. Use Microsoft Media Player to play the recorded file.
3. Mute: Turn off the audio. Click again to turn on it.
   The "mute" botton does not affect the playback recording video. As long as the "IP Camera to PC" option in the audio setting is enabled, all the audio will be recorded into the playback video even you click "mute" in the live page.
4. Full Screen: Full-screen mode.
5. ZOOM: Enable zoom-in and zoom-out functions. Select "Enable digital zoom" option first within the pop-up dialogue box and then drag and drop the bar to adjust the zoom factors.



6. Frame Buffm Sec: Build a buffm to accumulate several video frame and play at a regular intervals. This function can make video smooth-going when the Network speed is slow and lag. If you select “100”, the interval between every frame is fixed to 100 mSec. The slower the Network is, the bigger value should be selected. The default value is null.

V. IP Camera Configuration

Click to get into the administration page as below.

Click to back to the live video page.

LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)

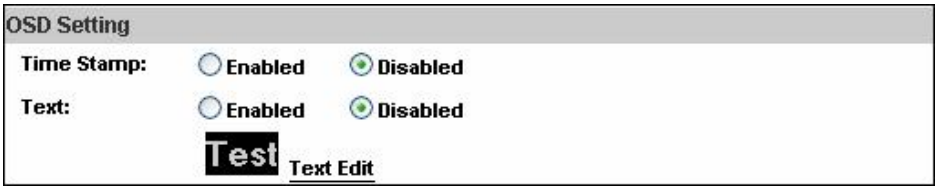
A. System

1. System Information

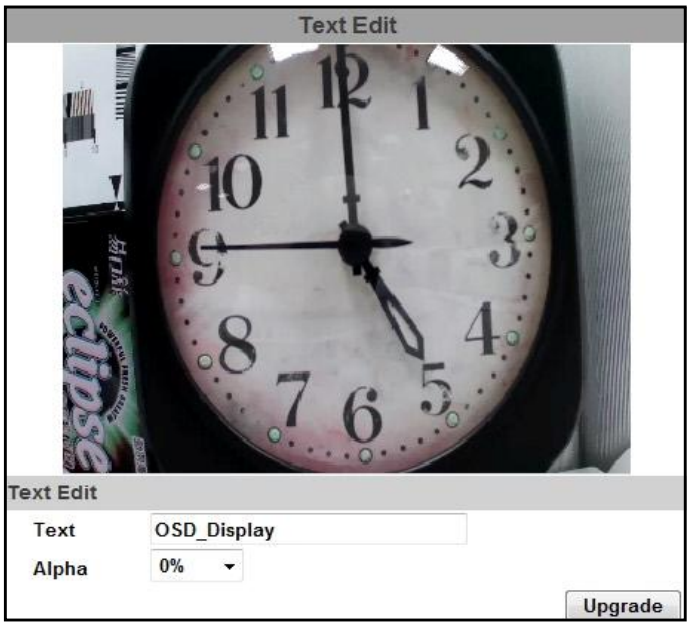
a. Server Information: Set up the camera name, select language, and set up the camera time.

Server Name: This is the Camera name. This name will show on the IP Installer.
Select language: There are 11 languages to choose from. When you change the language, it will show the following dialogue box for confirmation.

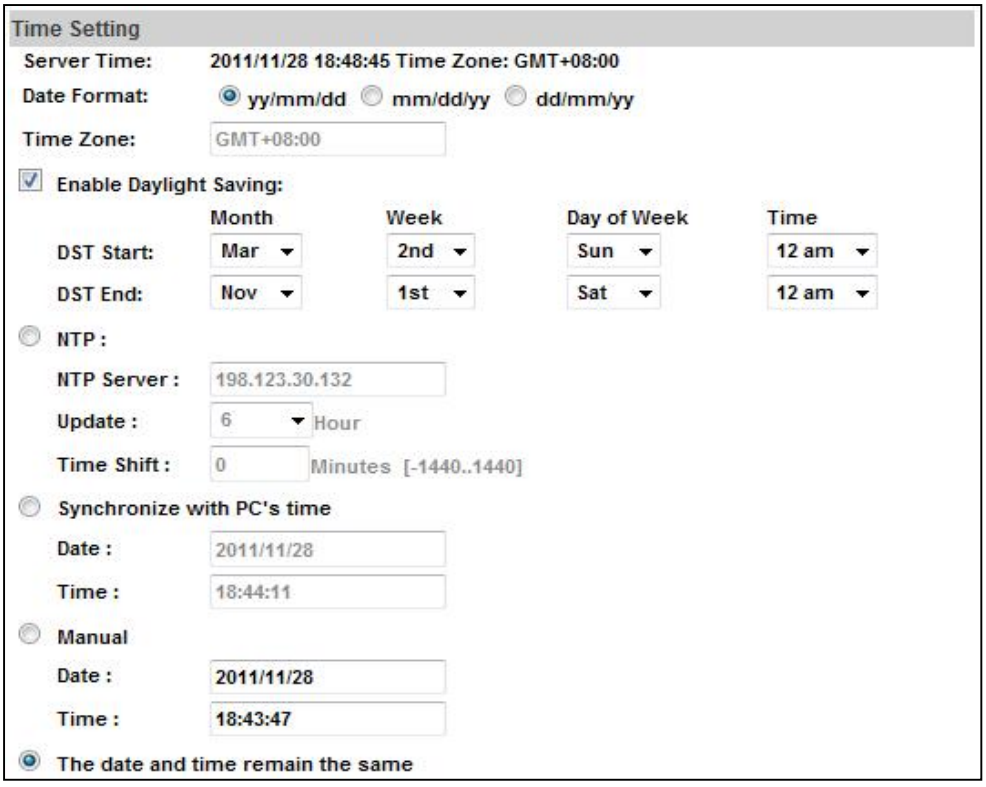
b. OSD Setting: Select a position where date & time stamp / text showing on screen.



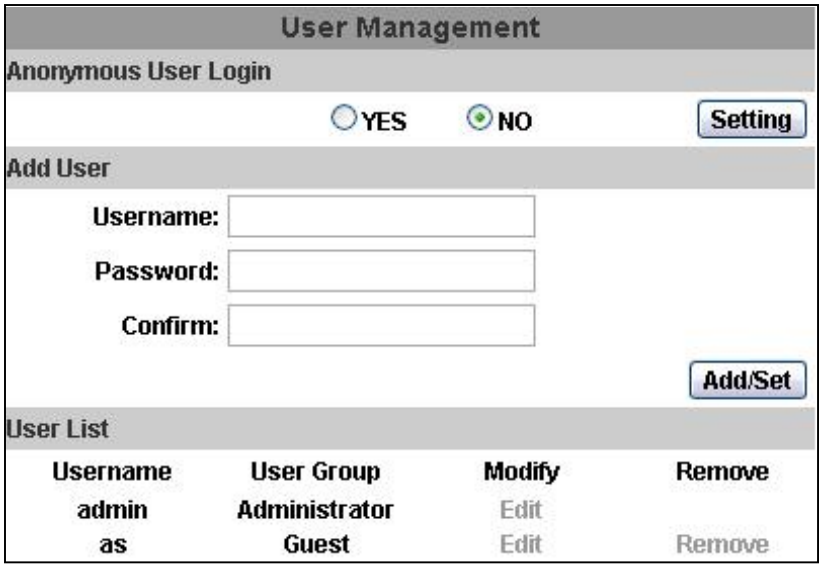
Moreover, click Text Edit can entry to adjust the OSD contents which is Alpha of text. Finally, click Upgrade button to reserve the setting.



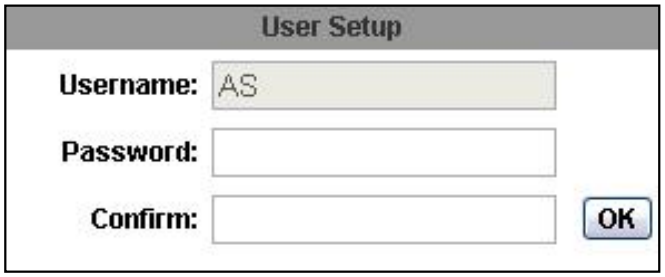
c. Server time setting: Select options to set up time - “NTP”, “Synchronize with PC’s time”, “Manual”, “The date and time remain the same”.
Note: To synchronize with the NTP Server, please set the IP camera up on the WAN instead of LAN.


Time Setting
Server Time: 2011/11/28 18:48:45 Time Zone: GMT+08:00
Date Format: yy/mm/dd mm/dd/yy dd/mm/yy
Time Zone: GMT+08:00
Enable Daylight Saving:
Month Week Day of Week Time
DST Start: Mar 2nd Sun 12 am
DST End: Nov 1st Sat 12 am
NTP :
NTP Server : 198.123.30.132
Update : 6 Hour
Time Shift : 0 Minutes [-1440..1440]
Synchronize with PC's time
Date : 2011/11/28
Time : 18:44:11
Manual
Date : 2011/11/28
Time : 18:43:47
The date and time remain the same

2. User Management
IP CAMERA supports three different users, administrator, general user, and anonymous user.



a. Anonymous User Login:
   Yes: anonymous login is allowed
   No: Username & password are required to access this IP camera
b. Add user:
   Type the user name and password, then click “Add/Set”.The guest user can only browse the live video page and is not allowed to enter the configuration page.
c. Click “edit” or “delete” in the user list to modify them. The system will ask you to key in the password in the pop-up window before you edit the user information.



LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)

3. System update:

a. To update the firmware online, click “Browse…” to select the firmware. Then click “Upgrade” to proceed.
Note: The firmware upgrade might be accompanied by the changing of some setting and function, and the setting options might become different to the user manual that you’re reading now.

b. Reboot system:re-start the IP camera

c. Factory default:delete all the settings in this IP camera.

d. Setting Management:User may download the current setting to PC, or upgrade from previous saved setting.

(i) Setting download:
Right-click the mouse button on Setting Download → Select “Save AS…” to save current IP CAM setting in PC → Select saving directory → Save

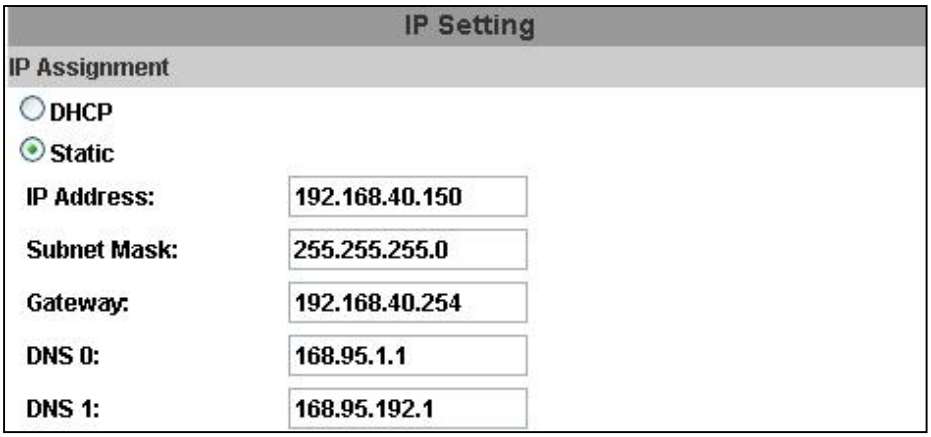
(ii) Upgrade from previous setting:
Browse → search previous setting → open → upgrade → Setting update confirm → click index.html. to return to main page

LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)

B. Network

1. IP Setting

a. IP Assignment

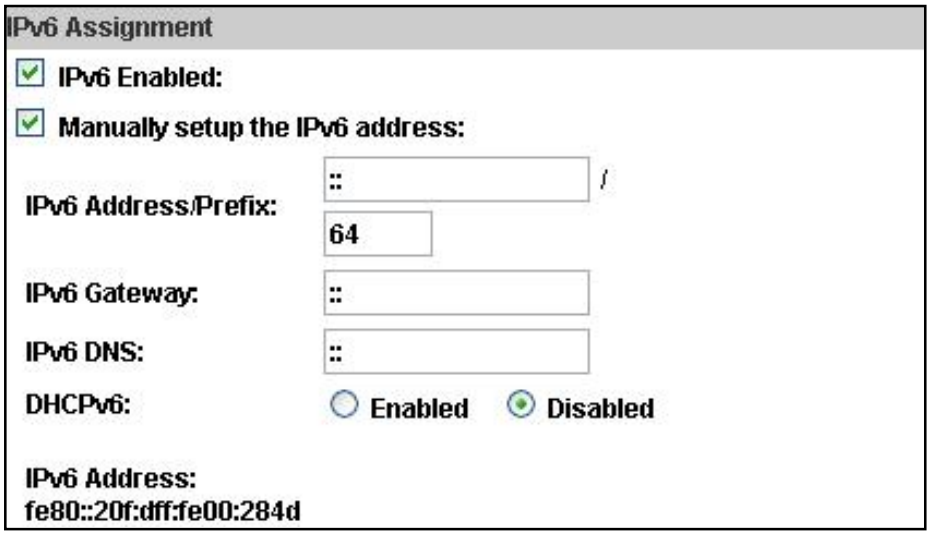


IP Camera supports DHCP and static IP.

(i) DHCP: Using DHCP, IP CAMERA will get all the network parameters automatically.

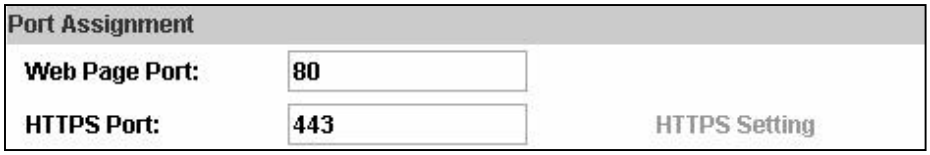
(ii) Static IP: Please type in IP address, subnet mask, gateway, and DNS manually.

b. IPv6 Assignment



IPv6 is a newer numbering system that provides a much larger address pool than IPv4, which accounts for most of today's Internet traffic. You can set up IPv6 manually by key in Address, Gateway, and DNS, or enable DHCP to assign the IP automatically.

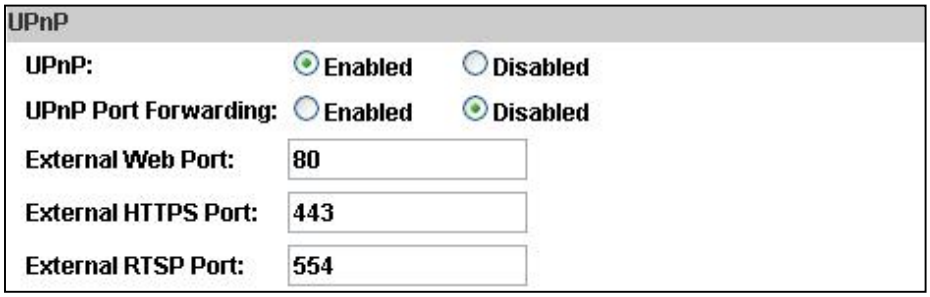
c. Port assignment



(i) Web Page Port: setup web page connecting port and video transmitting port (Default: 80)

(ii) HTTP Port:setup HTTPS connecting port (Default:443)

d. UPnP (Universal Plug and play)



This IP camera supports UPnP, If this service is enabled on your computer, the camera will automatically be detected and a new icon will be added to “My Network Places.”

(i) UPnP Port Forwarding:

When the camera is installed under a router, Enable UPnP Port Forwarding to let the router open ports so that the video streams can be sent out from a LAN. Set Web Port, Http Port, and RTSP port, and make sure your router supports UPnPTM and the function has been activated.

(ii) Note: UPnP must be enabled on your computer. Please follow the procedure to activate UPnP.

<Approach 1>

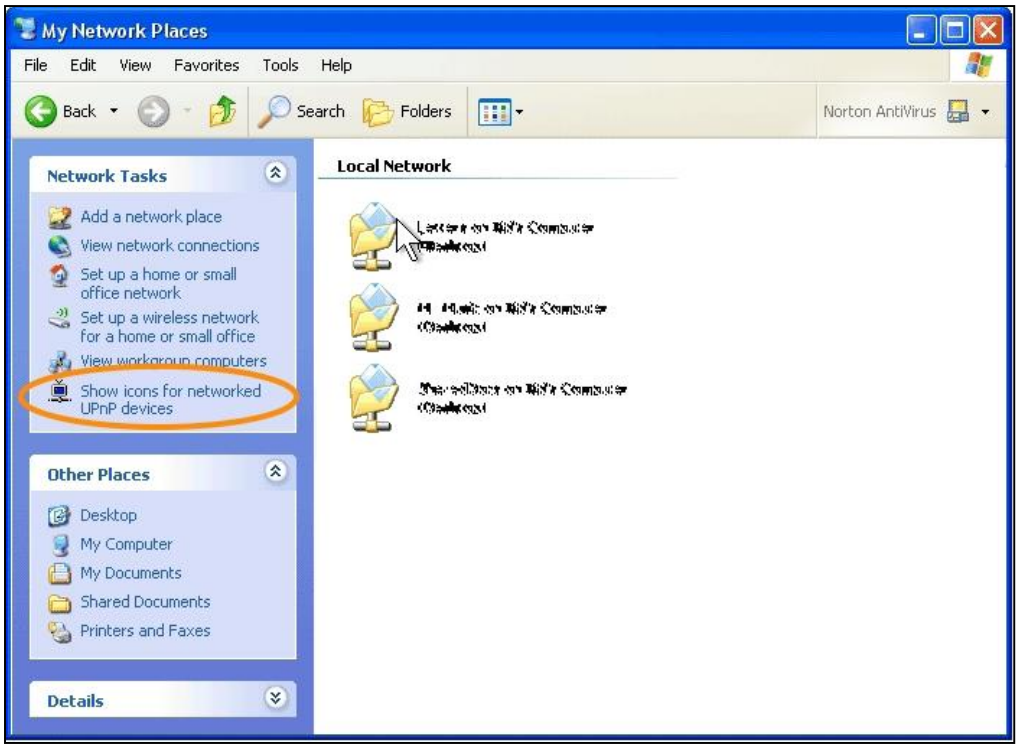
- Open the Control Panel from the Start Menu
- Select Add/Remove Programs
- Select Add/Remove Windows Components and open Networking Services section
- Click Details and select UPnP to setup the service
- The IP device icon will be added to “MY Network Places”
- User may double click the IP device icon to access IE browser

<Approach 2>

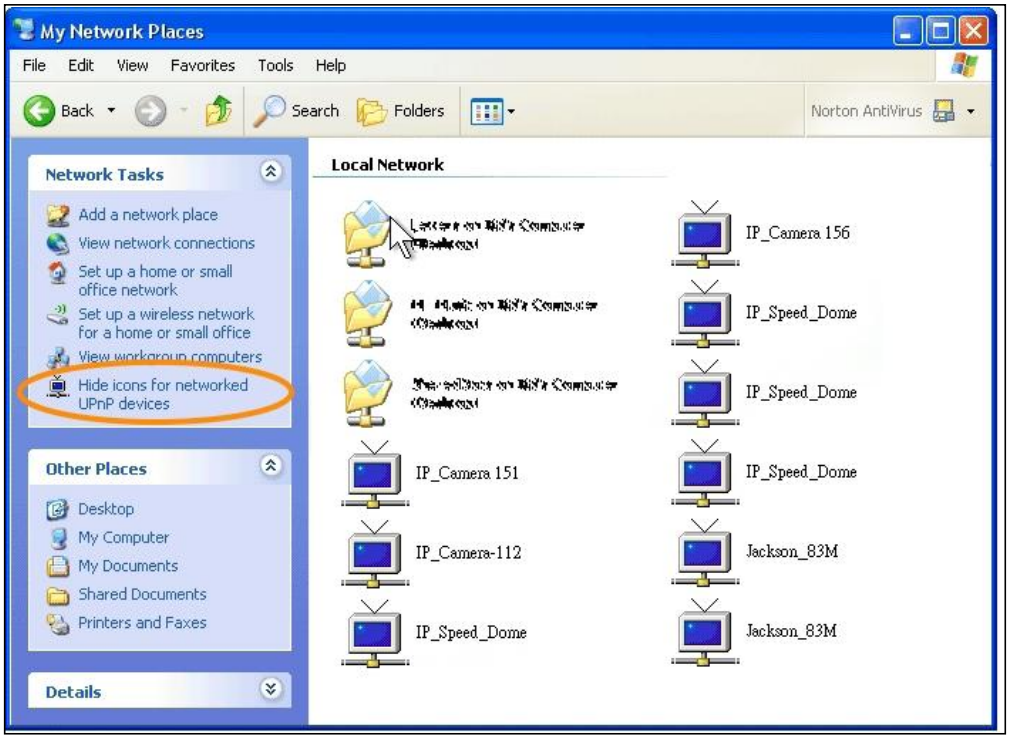
- Open "My Network Space", and click "Show icons for networked UPnP devises" in the tasks column on the left of the page.

LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)

Windows may ask your confirmation for enabling the components. Click "Yes".

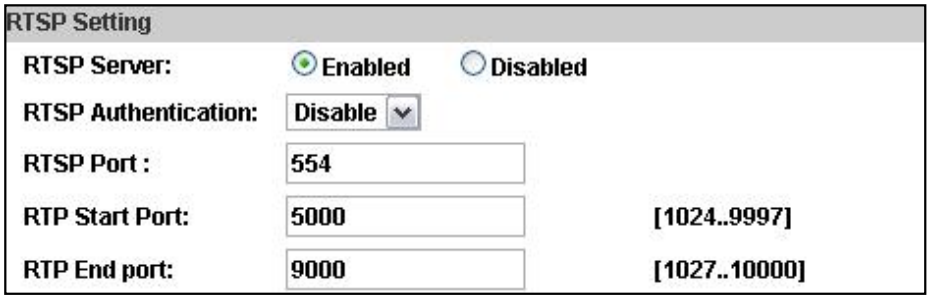


- Now you can see the IP devise under the LAN. Double-click the icon to access the camera via web browser. To disable the UPnP, click "Hide icons for networked UPnP devises" in the tasks column.



LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)

e. RTSP setting



If you have a media player that supports RTSP protocal, you can use it to receive the video streaming from IP camera. The RTSP address can be set for two streamings respectively. Please jump to Chapter V-C:"Video Setting". There're setting field for RTSP address of two streamings.

(i) RTSP Server: enable or disable

(ii) RTSP Authentication:

"Disable" means everyone who knows your camera IP Address can link to your camera via RTSP. No username and password are required.

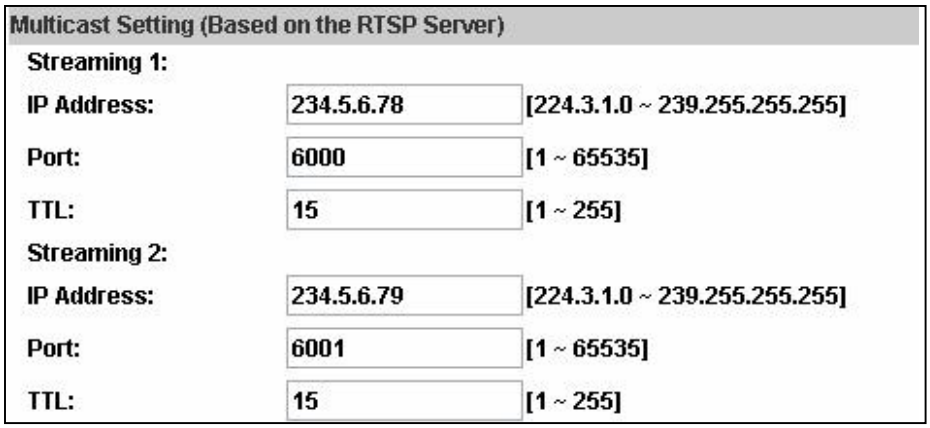
Under "Basic" and "Digest" authentication mode, the camera asks the user to give username and password before allows accessing. The password are transmitted as clear text under basic mode, which provides a lower level of security than under digest mode.

Make sure your media player supports the authenticaton schemes.

(iii) RTSP Port: setup port for RTSP transmitting (Default: 554)

(iv) RTSP Start and End Port: in RTSP mode, you may use TCP and UDP for connecting. TCP connection uses RTSP Port (554). UDP connection uses RTSP Start and End Port.

f. Multicast Setting (Based on the RTSP Server)

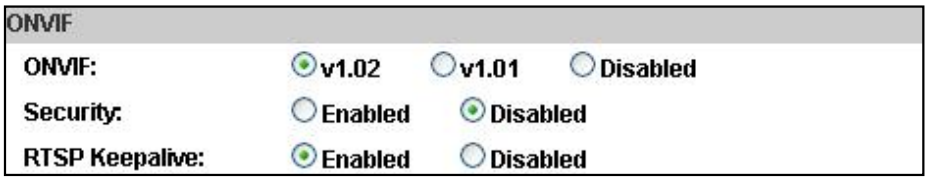


Multicast is a bandwidth conservation technology. This function allow several user to share the same packet sent from IP camera. To use

Multicast, appoint IP Address and port here. TTL means the life time of packet, The larger the value is, the more user can receive the packet.

To use Multicast, be sure to enable the function "Force Multicast RTP via RTSP" in your media player. Then key in the RTSP path of your camera: "rtsp:///(IP address)/" to receive the multicast.

g. ONVIF



Choose your ONVIF version and settings.

Under ONVIF connection, the video will be transmitted by RTSP. Be sure to enable the RTSP server in IP setting, or you're not able to receive the video via ONVIF.

RTSP Keepalive:

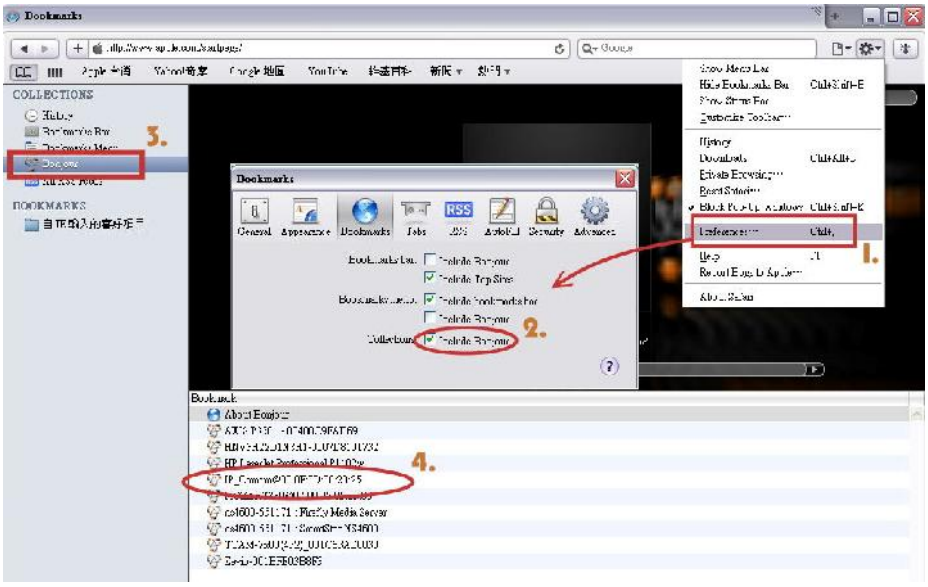
When the function is enabled, the camera checks once in a while if the user who links to the camera via ONVIF still keeps connecting. If the connection had been broken, the camera stop transmitting video to user.

h. Bonjour

This function enable MAC systems to link to this IP camera. Key in the name here.

The web browser "Safari" also has Bonjour function. Tick "Include Bonjour" in the bookmark setting, and you can see the IP camera appearing under the bonjour category. Click the icon to connect the IP camera.

LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)

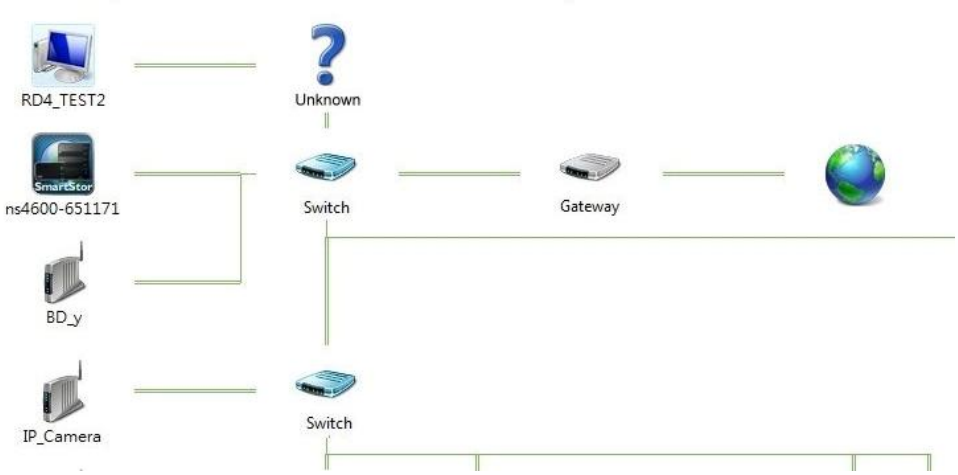


i. LLTD

If your PC supports LLTD, enable this function then you can check the connection status, properties, and device position(like IP address) of this IP Camera in the network map.

In the computer running Windows Vista or Windows 7, you can find LLTD through the path:

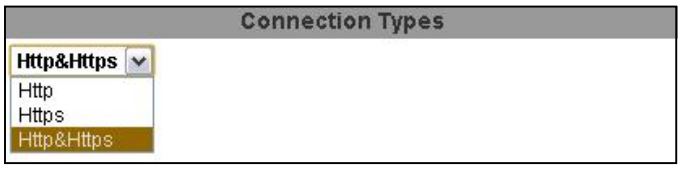
Call out the Control Panel → Network and Internet → Network and Sharing Center → Click "See full map".



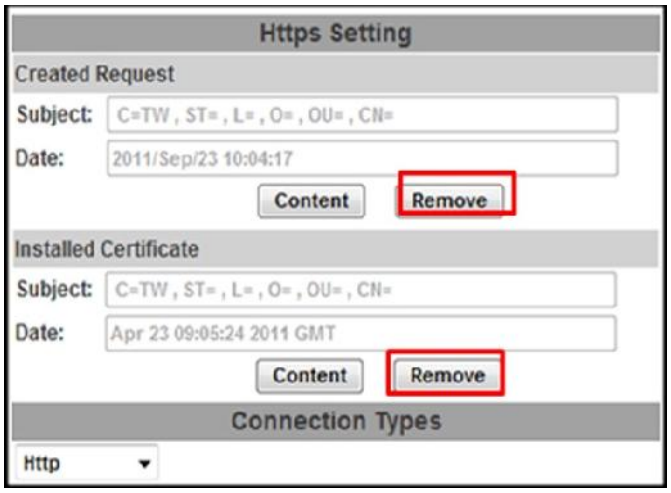
Sharing Center → Click "See full map".

2. Advanced

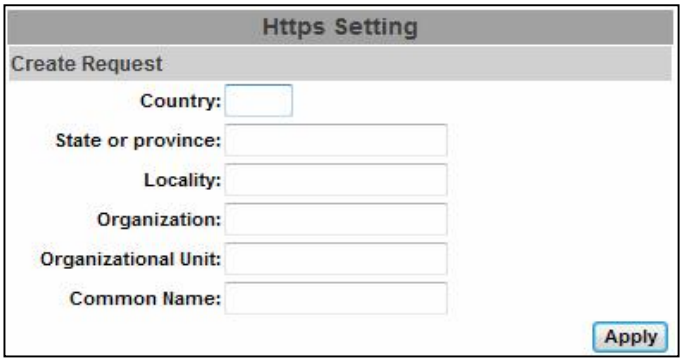
a. Https (Hypertext Transfer Protocol Secure): Https can help protect streaming data transmission over the internal on the higher security level. You can select the connection type. "Https" means user cannot connect the camera via Http protocal. The Https path will be: "https://(IP address)/". If you select "Http & Https", both the Http and Https path can be used to access the camera.



(i) Remove the existing setting: Before setting new request, please remove old secure identification. Select "Http" connection type and click "Remove".



(ii) Created Request: Setting the secure identification and apply it.

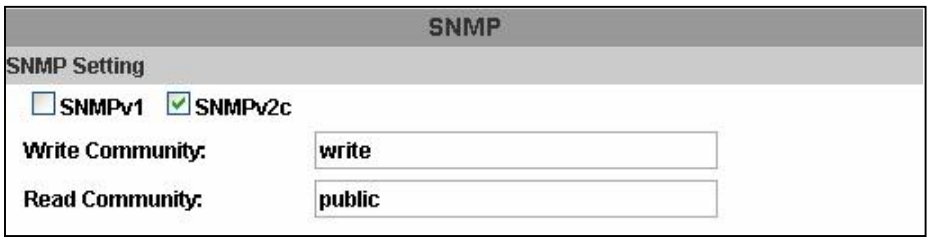


(iii) There are two ways to set Certificate- Install Signed Certificate or Create Self-Signed Certificate.

b. SNMP(Simple Network Management Protocol)

SNMP provides a simple framework for administering networked hardware. To manage the IP camera, you have to prepare a MIB browser or similar tools first. SNMPv1, SNMPv2c, and SNMPv3 can be enabled simultaneously.

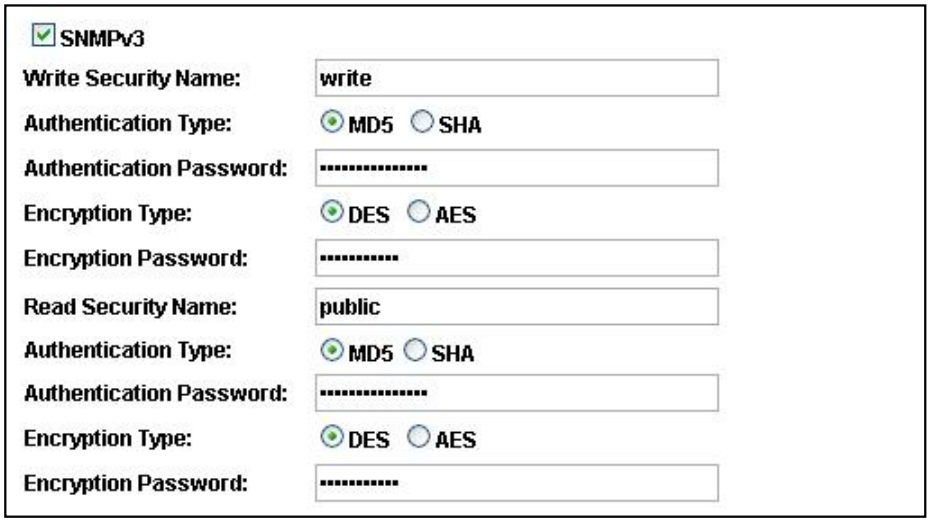
(i) SNMPv1 and SNMPv2:



The term "Community name" in SNMPv1 and SNMPv2c can be roughly regarded as key. The person who has the community name has the authority to read or edit the information of IP camera via SNMP.

Tick the box to enable SNMPv1 or SNMPv2c protocal, and specify the community name for write(read and write) and read(read-only). The user who use read community name to access the IP camera cannot modify any data of this camera.

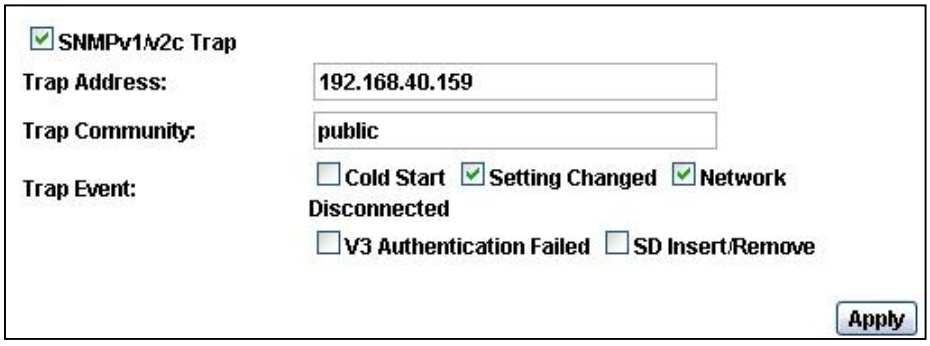
(ii) SNMPv3:



For data security reason, the authentication and encryption assurances are added when developing SNMPv3. The user has to give not only the security name(the same as "community name" in v1&v2c, or sometimes we call it "context name") but the password in order to access the IP camera. Please set security name, authentication type, authentication password, encryption type, encryption password of write and read respectively. The password must be 8~64 bits in length.

Different from in SNMPv1 and v2c, the user have to create a account when using SNMPv3. In the account parameters, key in the security name and password you set in the camera to get accessing.

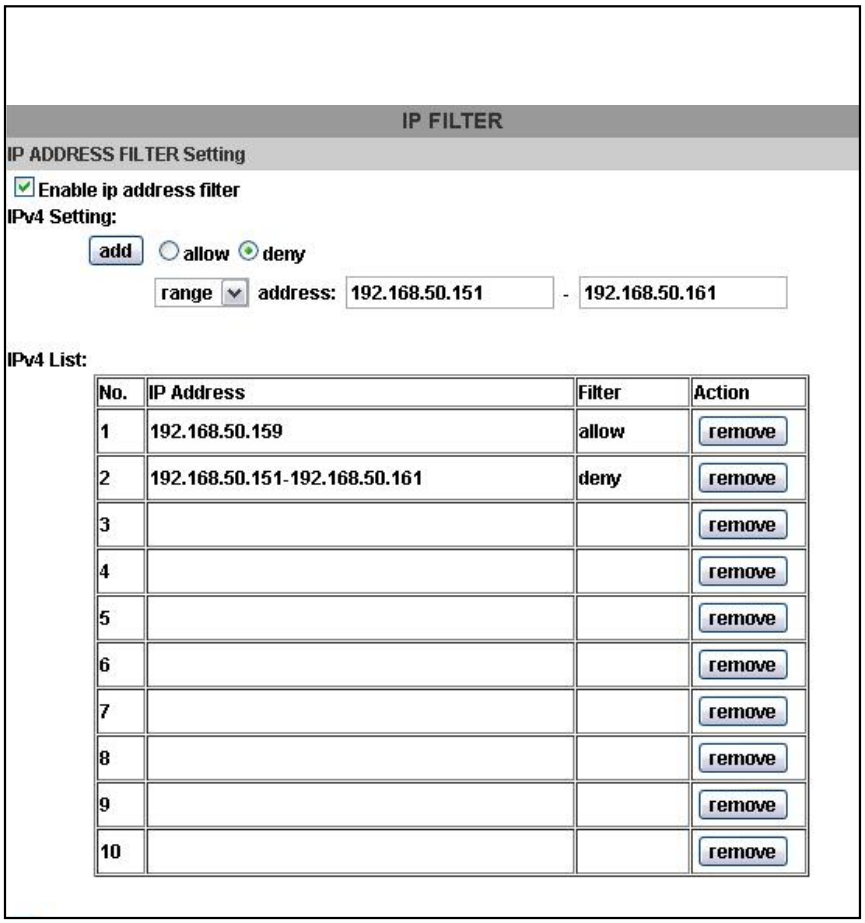
(iii) SNMPv1/SNMPv2 Trap:



Trap is a mechanism that allows the a managed device to send messages to manager instead of waiting passively for polling from the manager. Specify the trap event. When those events happen, the camera will send the ring message to the Trap Address, which is usually the manager's IP address. Trap Community means the community that can receive the trap message.

- Cold Start: The camera starts up or reboots.
- Setting changed: The SNMP setting is changed.
- Network Disconnected: The network connection was broken down. (The camera will send trap messages after the network being connected again)
- V3 Authentication Failed: A SNMPv3 user account tries to get authentication but failed. (Due to incorrect password or community)
- SD Insert / Remove: A Micro SD card is inserted or removed.

c. Access List

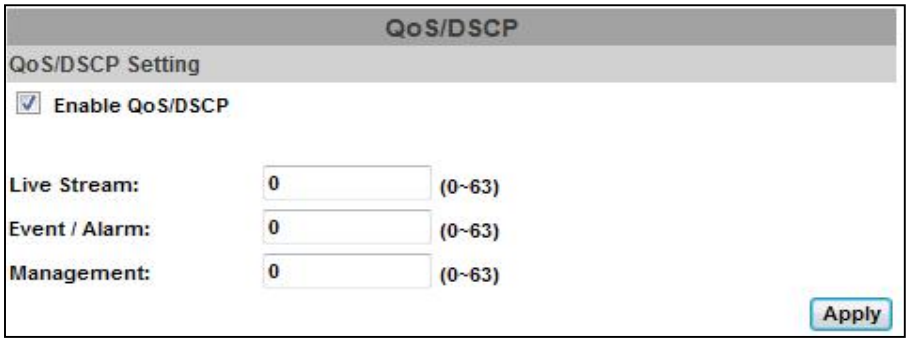


You can deny a IP address or a range of IP address so that they cannot access the IP camera. Tick the "enable" box, key in the IP address you want to deny, select"deny" then click"Add" to add it to the list.

You can also choose to deny a range of IP address but allow one or several IP address of them. Take the picture above for example, IP address 192.168.50.151~161 are not allowed to connect to the camera, but only

192.168.50.159 can access. Note: In the list "allow" condition must be ranked before "deny" condition. For example, if we exchange the sequense, set "Deny: 192.168.50.151~192.168.50.161" for the first item and "Allow: 192.168.50.159" for the second item in the list, the IP "192.168.50.159" turns out to be denied by the camera because the "deny" condition has the priority according to our ranking way.

d. QoS/DSCP(Quality of Server/Differentiated Services Code-point)



DSCP specifies a simple mechanism for classifying and managing network traffic and provide QoS on IP networks. DSCP is a 6-bit in the IP header for packet classification purpose.

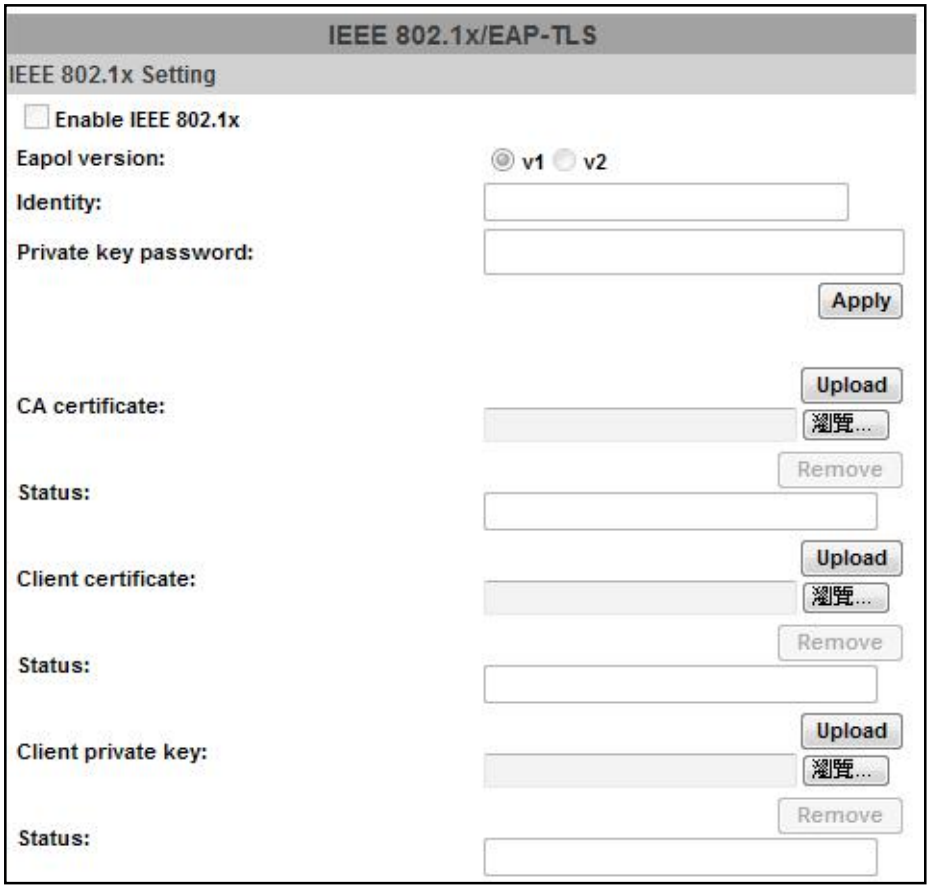
The number 0~63 for Live Stream, Event / Alarm, and Management represent the ratio that the bandwidth is divided. For example, if you set 5, 10, and 20 for the three items, then the bandwidth of the three item is 5:10:20. There is no difference between setting "0, 0, 0" or "63, 63, 63" because under these two setting the three items will get equal bandwidth (1/3).

The three stream control the protocols respectively:

- Live Stream (Video and audio) : RTP / RTSP
- Event/Alarm : FTP / SMTP / SAMBA / SIP
- Management : HTTPS / HTTP / SNMP

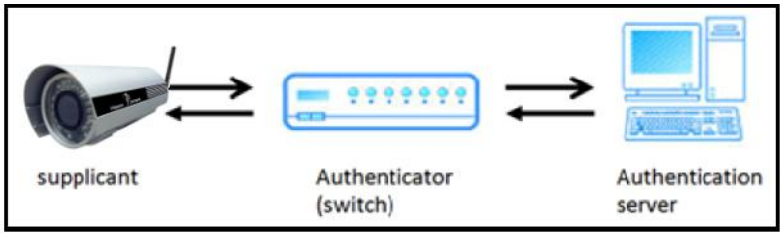
Note: The "Management" stream handles both the live view and the setting area of the web page on which the data is transferred via http/https protocol. If you prefer to distribute more bandwidth when using the web browser to access the camera, please adjust the Management stream

e. IEEE 802.1x



IEEE 802.1x is an IEEE standard for port-based Network Access Control. It provides an authentication mechanism to device wishing to attach to a LAN or WLAN.

The EAPOL protocol support service identification and optional point to point encryption over the local LAN segment.

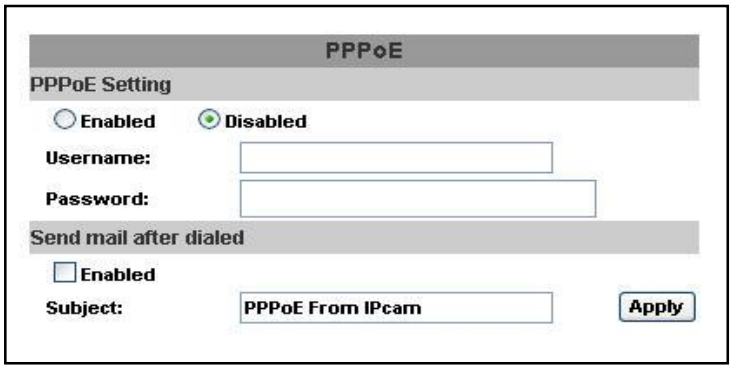


Please check what version of the authenticator and authentication server support. This camera supports EAP-TLS method. Please enter ID, password issued by the CA, then upload related certificates.

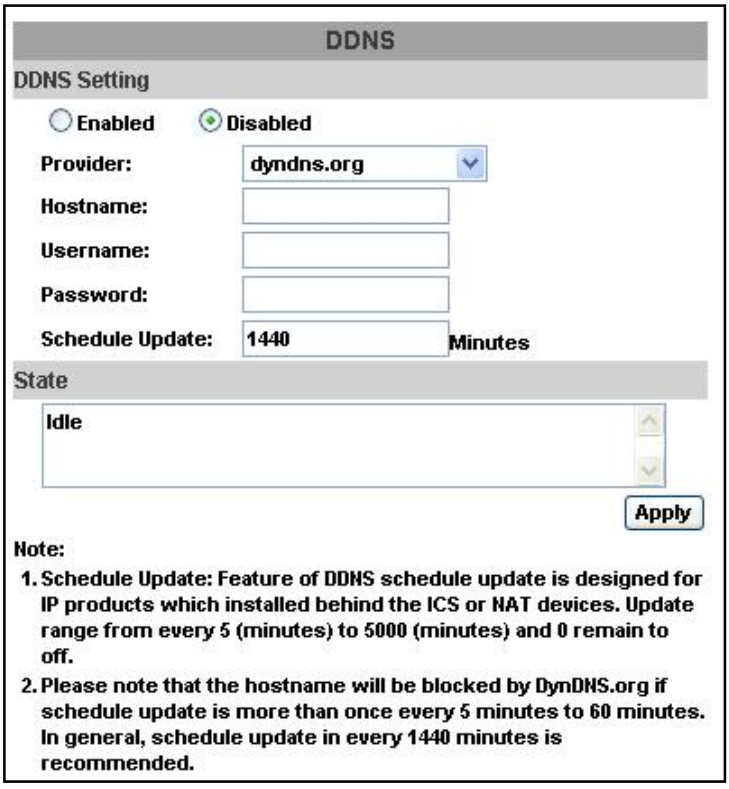
LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)

3. PPPoE & DDNS

a. PPPoE: Select “Enabled” to use PPPoE. Key-in Username and password for the ADSL connection. Send mail after dialed: When connect to the internet, it will send a mail to a specific mail account. For the mail setting, please refer to Server settings.



b. DDNS:


DDNS
DDNS Setting
Enabled
Disabled
Provider:
dyndns.org
Hostname:
Username:
Password:
Schedule Update:
1440
Minutes
State
Idle
Apply
Note:
1. Schedule Update: Feature of DDNS schedule update is designed for IP products which installed behind the ICS or NAT devices. Update range from every 5 (minutes) to 5000 (minutes) and 0 remain to off.
2. Please note that the hostname will be blocked by DynDNS.org if schedule update is more than once every 5 minutes to 60 minutes. In general, schedule update in every 1440 minutes is recommended.

It supports DDNS (Dynamic DNS) service.

(i) Enable this service

(ii) Key-in the DynDNS server name, user name, and password.

(iii) Set up the IP Schedule update refreshing rate.

(iv) Click “Apply”

(v) If setting up IP schedule update too frequently, the IP may be blocked. In general, schedule update every day (1440 minutes) is recommended

LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)

(vi) DDNS Status

- Updating: Information update
- Idle: Stop service
- DDNS registration successful, can now log by http://<username>.ddns.camddns.com: Register successfully.
- Update Failed, the name is already registered: The user name has already been used. Please change it.
- Update Failed, please check your internet connection: Network connection failed.
- Update Failed, please check the account information you provide: The server, user name, and password may be wrong.

LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)

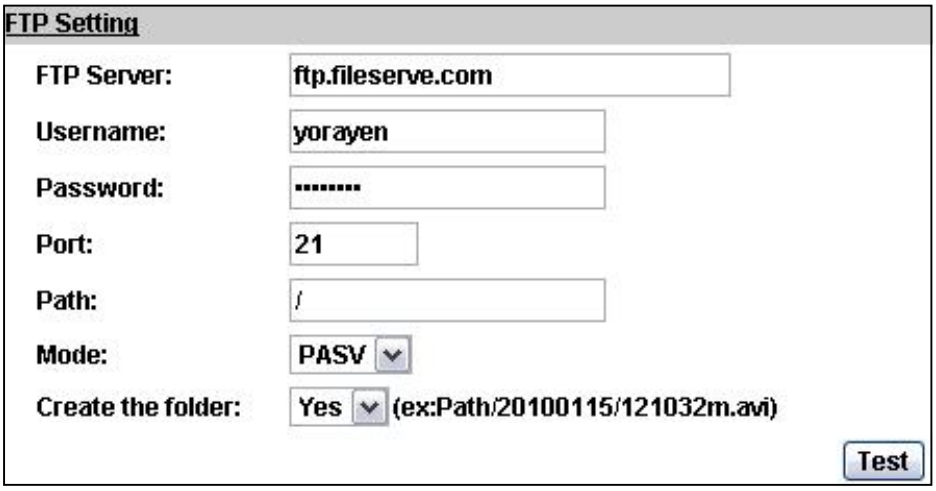
4. Server setting

The settings of Email, FTP and SAMBA are used when the event happens, schedule snapshot executes, or the alarm input is triggered. Select the item to display the detailed configuration options. You can configure either one or all of them.

a. Mail Setting:

Set up the server address and account information of your e-mail. Click “Apply” to save the setting, then use “Test” botton to test the server connection. A message box will tell you “OK!” if it works, and a test e-mail will be sent to receiver’s mail address.

b. FTP:



Set up the server address and account information of your FTP. Click “Apply” to save the setting, then use “Test” botton to test the server

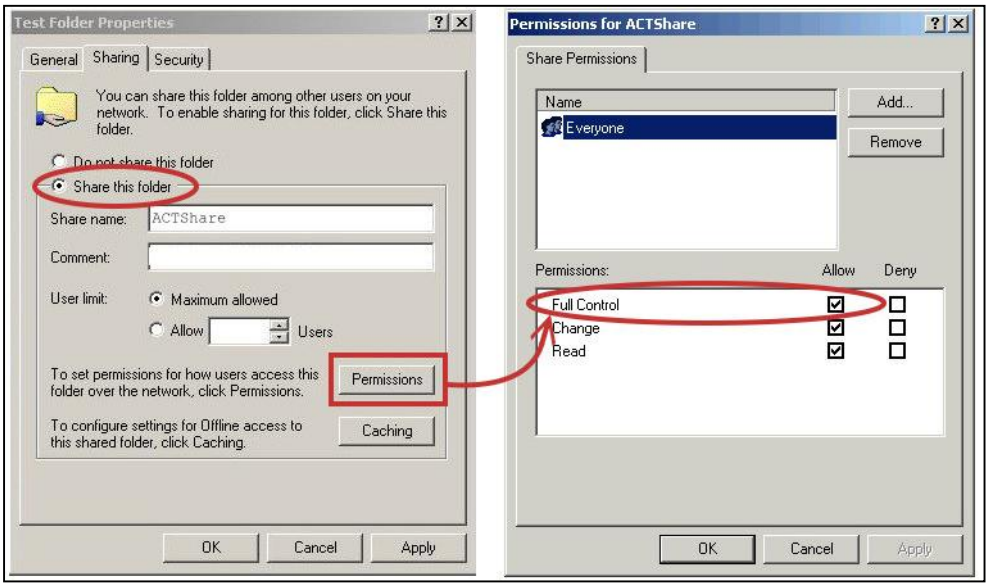
connection. A message box will tell you “OK!” if it works, and a test file will be uploaded to FTP space.

In PORT mode, the FTP server builds the connection to the user’s data port actively. However, from the user-side firewall’s standpoint, the action of connecting from FTP server is often considered to be dangerous and should be blocked. In PASV mode, the problem is solved: The FTP server waits for the data transmission connection built by the user. Make sure that the server supports the mode you select.

c. Samba:

Select this option to send the media files via a network neighborhood when an event is triggered. Click “Apply” to save the setting, then use “Test” botton to test the server connection. A message box will tell you “OK!” if it works, and a test document will be created in the location.

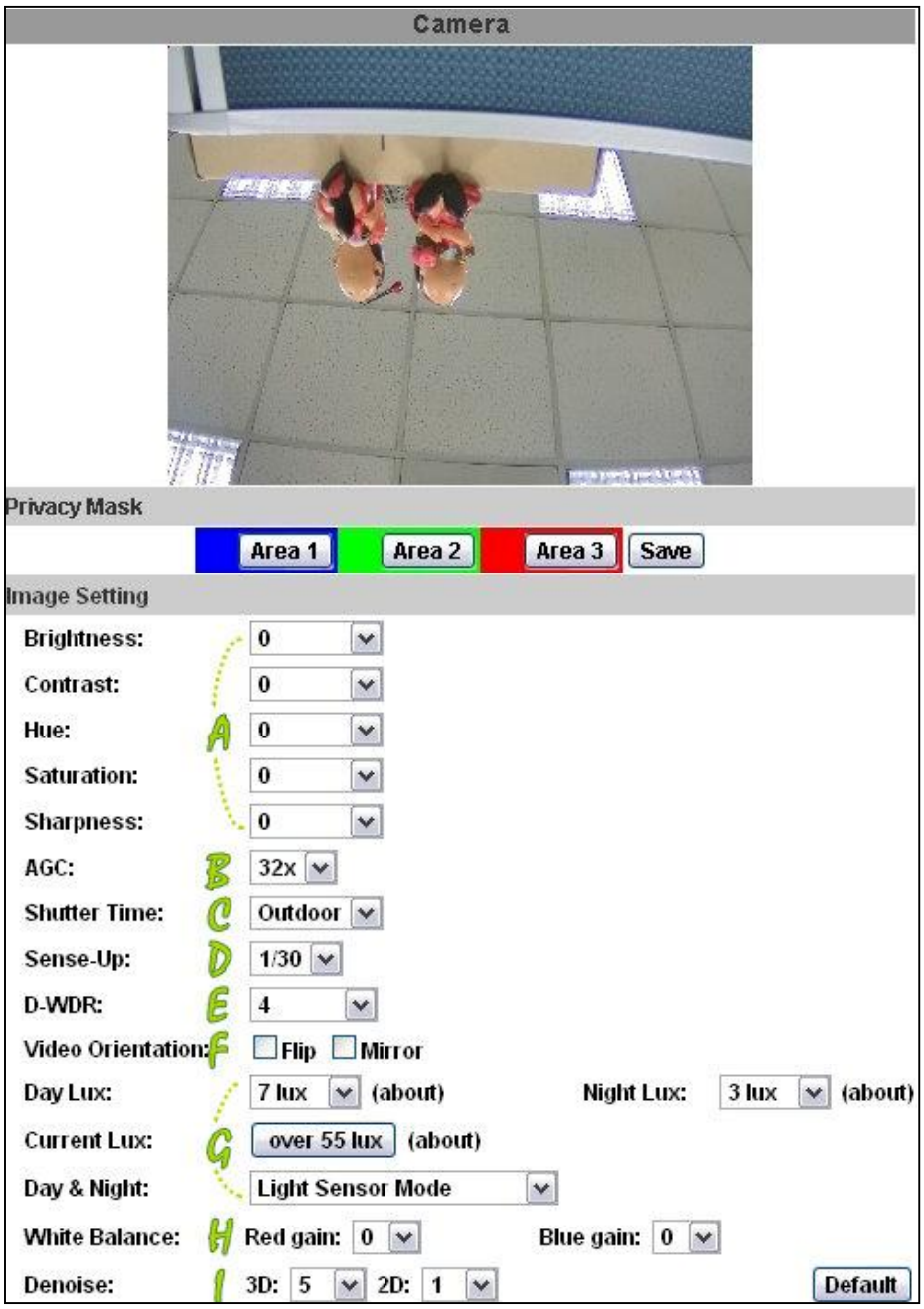
If the test failed, check the sharing setting of your location folder. The folder properties must be “shared” and the permissions must be “Full Control” as the picture.



LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)

C. A/V Setting

1. Image Setting



For the security and privacy purpose, there are three areas can be setup for privacy mask. Click Area button first and drag an area on the above image, and remember to save your setting. The masked area will not show on both the live view and recording.

Please refer to the details below for Image setting:

a. Brightness, Contrast, Hue, Saturation, Sharpness can be adjusted here.

b. AGC: Automatic gain control. The sensitivity of camera can adjusts with the environmental light. Enable this function and the brighter image can be got

under dim light, but the level of noise may also increase.

c. Shutter Time: Choose as the location of your camera or fixed shutter time. The shorter the shutter time is, the less light the camera receives and the image becomes darker.

d. Sense-Up: This function increases the sensitivity of camera to get brighter image at night. The smaller the value you select, the slower the shutter speed becomes so that the image will get brighter, and moving subjects might be blurred.

e. D-WDR: Digital wide dynamic range. This funtion enables the camera to reduce the contrast in the view to avoid the dark zones resulting from over and under exposure.

f. Video Orientation: Flip or mirror the image as your requirement.

g. Day & Night: The camera can detect the light level of environment. If you choose "Light Sensor Mode", the image will be turned to black and white at night in order to keep clear. To set light sensor mode, appoint a lux stantard of switching D/N here. Current lux value is provided for reference. Under "Times Mode" the switch time of Color / Black and white is according to the given time. You can also control it by choosing "Color" or "B/W" .

h. White Balance: Enhance red / blue color in the image.

i. Denoise: This function is able to filter the noise and blur from the image and show a clearer view. "3D" and "2D" are two different denoising approaches. 3D denoise analyzes successive pictures to detect the noise places while 2D denoise analyzes only single picture.

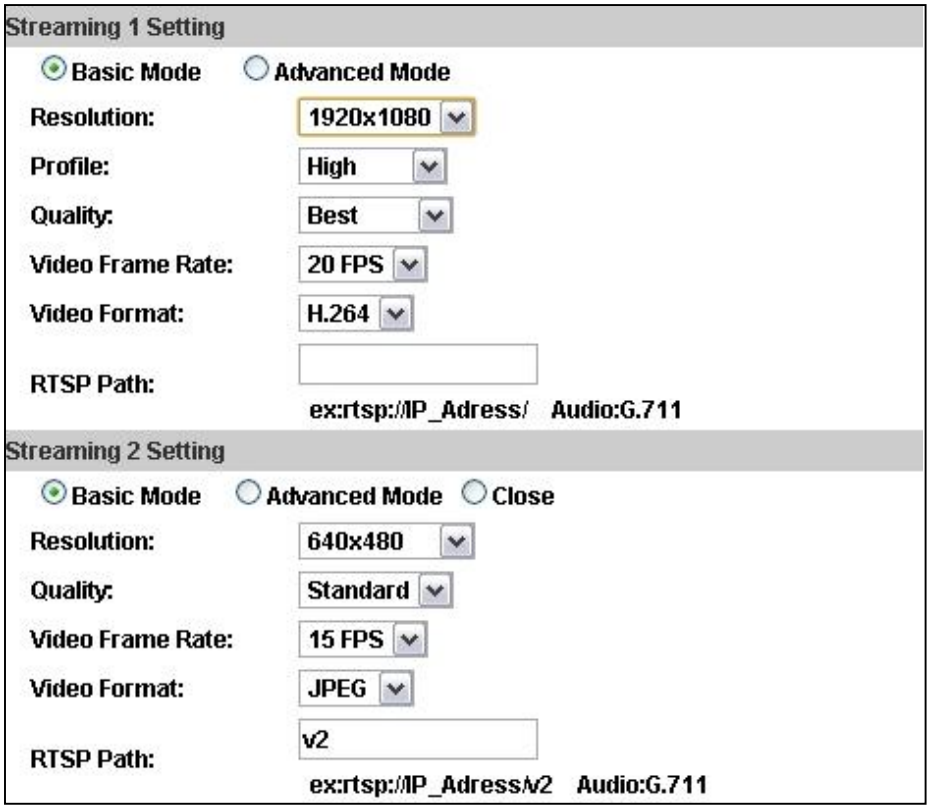
LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)

2. Video Setting

a. Video System Setting:

Choose the Video System (digital signal) and TV Output (analog signal).

b. Basic Mode of Streaming 1 and Streaming 2:



(i) Resolution: 1920x1080,1280x720 , 640x480, 320x240, or 176x144

(ii) Profile: Profiles are different compression way of H.264. High profile provides better coding efficiency. Note that some devises do not support every profile. For example, iPhone4 only supports Main profile.

(iii) Quality: The higher the quality is, the bigger the file size is. It might affect Internet transmitting speed if the file gets too large.

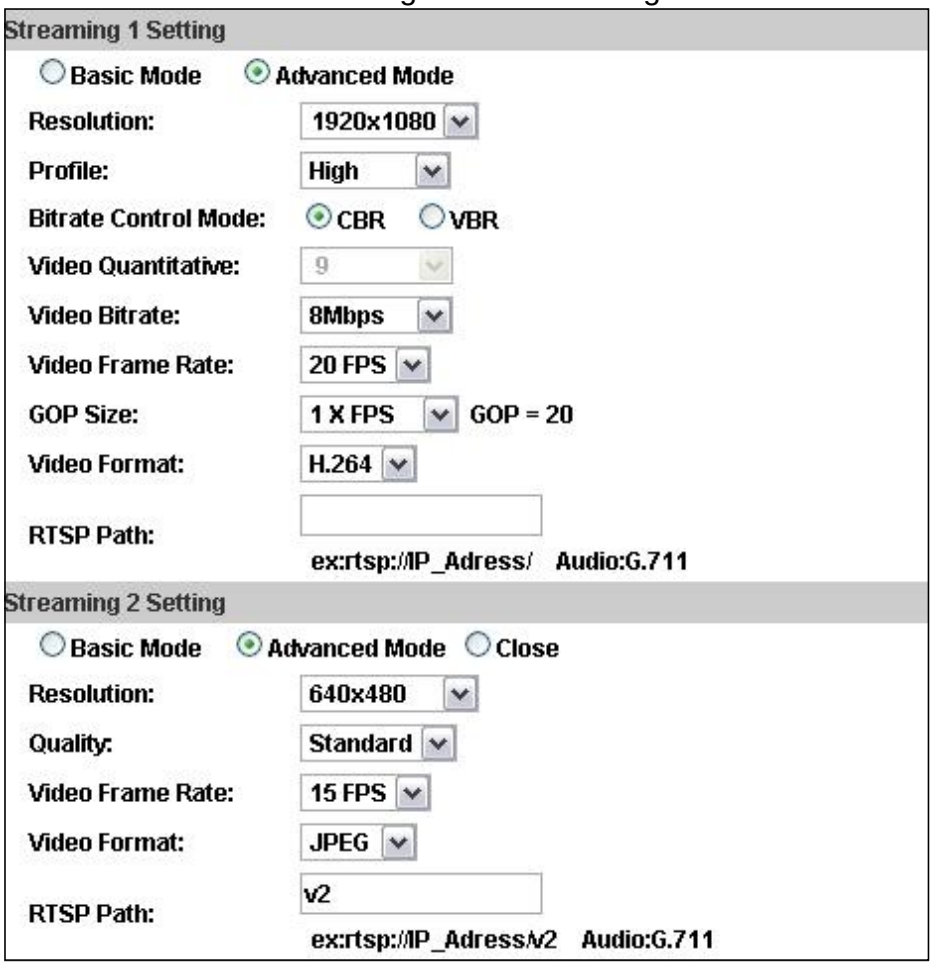
(iv) Video Frame Rate: The video refreshing rate per second. The max value is affected by the input resolution you choose.

(v) Video Format: H.264 or M-JPEG

(vi) RTSP Path: Set the RTSP output connecting route.

LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)

c. Advanced Mode of Streaming 1 and Streaming 2:



(i) Resolution: 1920x1080,1280x720 , 640x480, 320x240, or 176x144

(ii) Profile: High profile provides better coding efficiency. Note that some devises do not support every profile. For example, iPhone4 only supports Main profile.

(iii) Bitrate Control Mode: In CBR(Constant Bit Rate) mode, the bitrate keeps consistent all over the video. In VBR(Variable Bit Rate) mode, the bitrate changes with the complexity extent of the video data. VBR provides a better compression way and the file may be smaller. However, the VBR file size cannot be predicted.

(iv) Video Quantitative: The quality parameter of VBR. You can choose 1~10 compression rate

(v) Video Bitrate: The quality parameter of CBR. You can choose 32kbps~8Mkbps. The higher the value is, the higher the image quality is.

(vi) Video Frame Rate: The video refreshing rate per second. The max value is affected by the input resolution you choose.

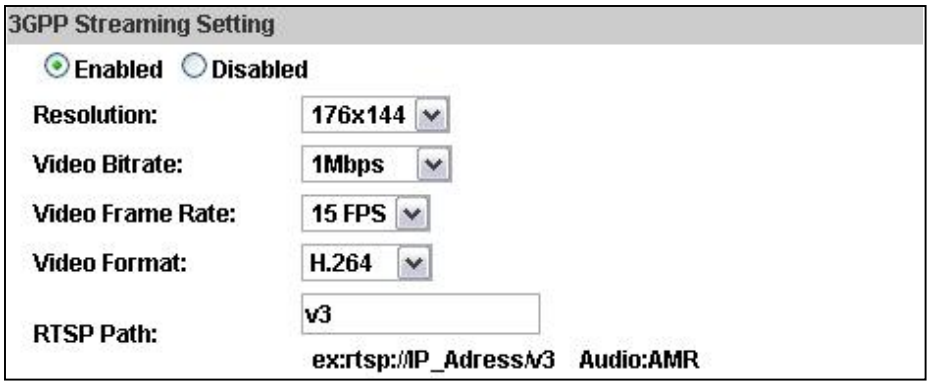
(vii) GOP Size: It means “Group of Pictures”. The higher the GOP is, the

better the quality is.

(viii) Video Format: H.264 or M-JPEG

(ix) RTSP Path: RTSP output connecting route.

d. 3GPP Streaming mode:



3GPP Streaming is designed for mobile viewing. Please lower the resolution, bitrate, or frame rate if the image flow isn't smooth when you use the mobile phone.

(i) Resolution: 640x480, 320x240, or 176x144

(ii) Video Bitrate: The higher the value is, the higher the image quality is.

(iii) Video Frame Rate: The video refreshing rate per second.

(iv) Video Format: H.264 or MPEG4

(v) 3GPP Path: 3GPP output connecting route. If the IP address of your camera is 192.168.40.150, and you key in "3g" in the column, the 3GPP path will be rtsp://192.168.40.150/3g.

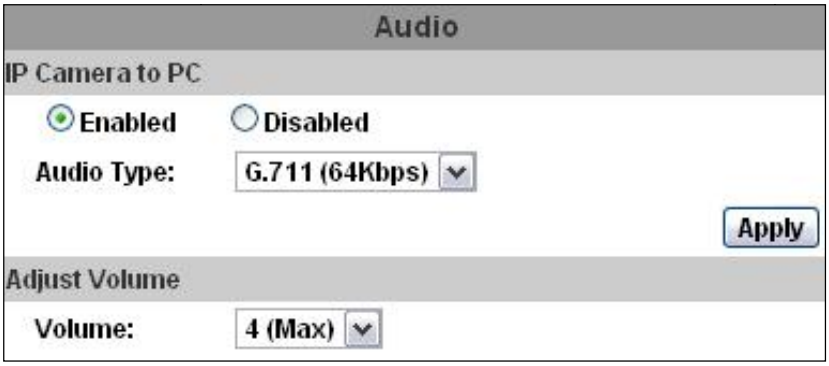
The rtsp here is seperated from the rtsp setting in the "IP SETTING". 3GPP Streaming can still work even you select "disabled" in the rtsp server option of IP Setting.

LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)

3. Audio:

IP Camera supports 2-way audio. Audio can be receive by the built-in mic in the IP camera and transmitted to remote PC. User can also send audio from remote PC mic to IP Camera's external speaker.

a. IP Camera to PC



To receive Audio from IP camera, select "Enable" to start this function. The Audio compression format can be choosed from 3 options. You can also adjust the volume of 2-way audio.

b. PC to IP Camera

Tick "chatting" box in the browsing page, then your voice can be propagated from PC to camera.

If "Chatting" and "Save to SD card" are enabled simultaneously, the sound quaily might be affected and becomes not smooth.

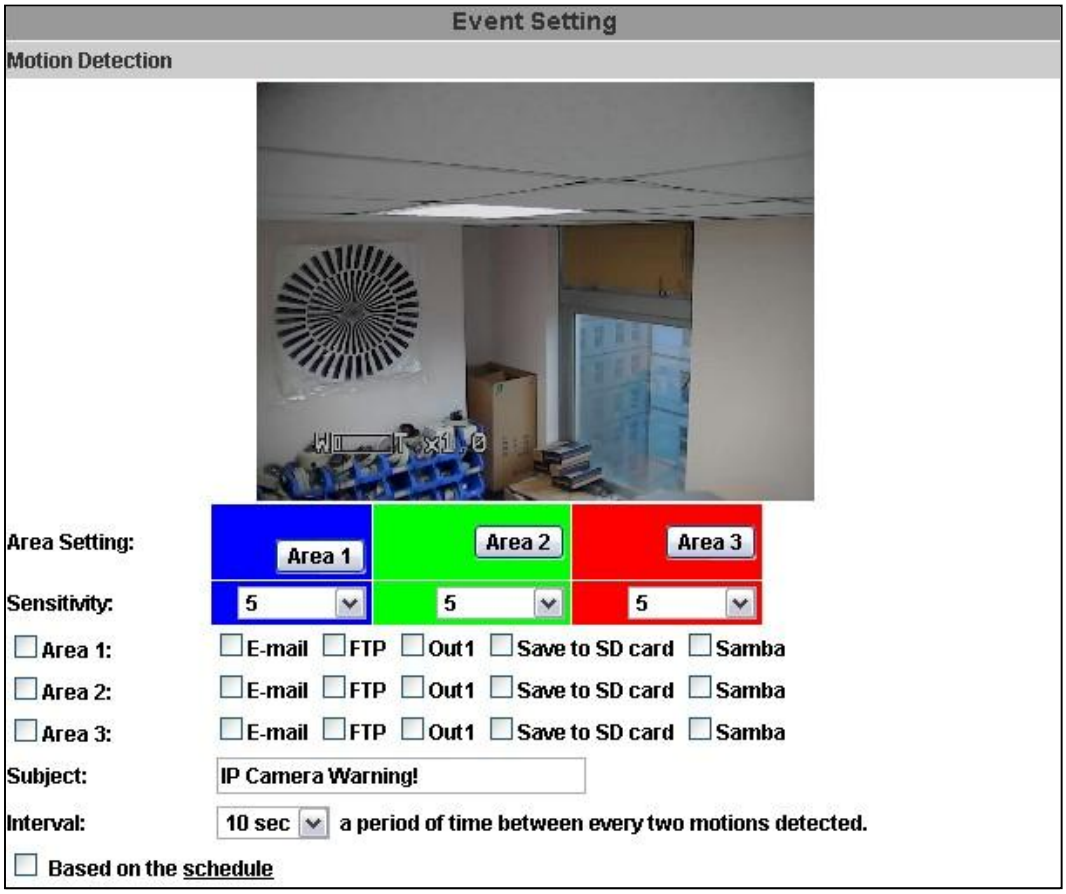
LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)

D. Event List

IP Camera provides multiple event settings.

1. Event Setting

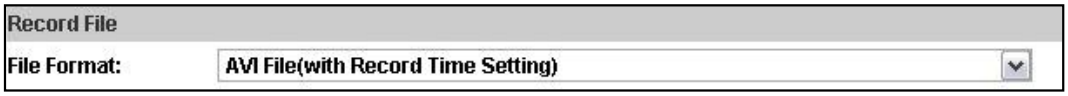
   a. Motion Detection



IP CAMERA allows 3 areas motion detection. When motion is detected, it can send video to some specific mail addresses, trigger the output devise, or save video to remote FTP / Micro SD card / Samba. To set up the motion area, click “Area Setting”. Using mouse to drag and draw the area.

- Intervel:
  For example, if you select "10 sec" here, once the motion is detected and action is triggered, it cannot be triggered again within 10 seconds.
- Based on the schedule:
  When the option box is ticked, only during the selected schedule time the motion detection is enabled. That is, for example, the 11th hour of Monday has not been colored in the schedule table, then no action will be triggered even the camera detects motion during 11:00~12:00 on Monday.

b. Record File

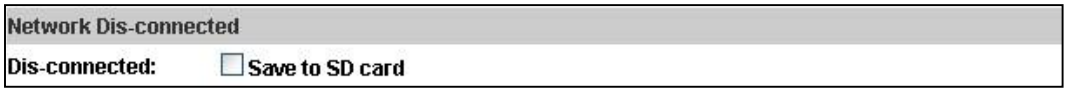


Choose one of the format, AVI or JPEG

c. Record Time Setting

Set up the video recording time for Pre Alarm and Post Alarm when motion is detected, I/O, or other devices is triggered

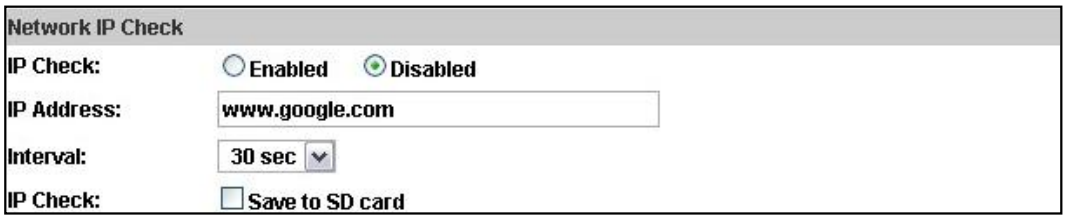
d. Network Dis-connected



To avoid video loss, the camera will start to save the video to local SD card when it detect no network connection. The video recording will continuously be saved into SD card and divided into every 10 minutes a file until the network is reconnected successfully. The oldest file will be deleted if the capacity of SD card is full.

This function is only enabled under wire connection.

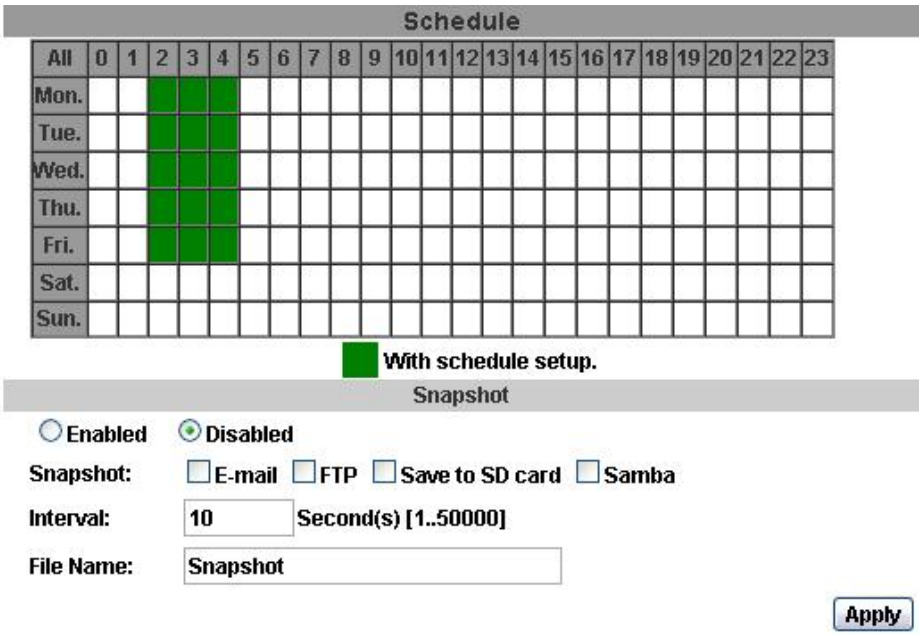
e. Network IP check:



Key in the target IP address and interval. The camera checks once in a while according to the setting interval time that if itself can linked to the target IP address. If connection failed, the camera starts to save the video to SD card.

LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)

2. Schedule

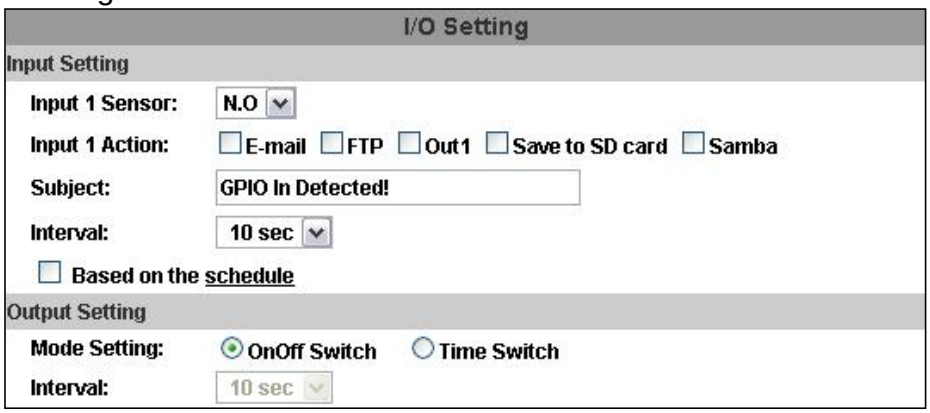


a. Schedule: After complete the schedule setup, the camera data will be recorded according to the schedule setup.

b. Snapshot: After enable the snapshot function, user can select the storage position of snapshot file, the interval time of snapshot and the reserved file name of snapshot.

c. Interval: The interval between two snapshots.

3. I/O Setting



a. Input Setting:

IP Camera supports input and output. When the input condition is triggered, it can trigger the relay, send the video to mail addresses /FTP server / SAMBA.

- Intervel:
  For example, if you select "10 sec" here, once the motion is detected and action is triggered, it cannot be triggered again within 10 seconds.
- Based on the schedule:
  When the option box is ticked, only during the selected schedule time the I/O is enabled. That is, for example, the 11th hour of Monday has not been colored in the schedule table, then no action will be triggered even the camera detects input signal during 11:00~12:00 on Monday.

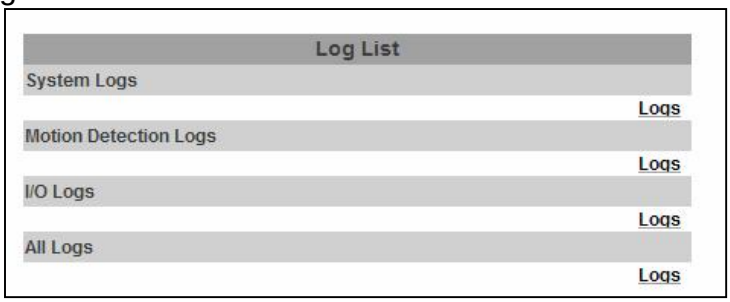
b. Output Setting:

The output mode affect the DO or relay out duration.

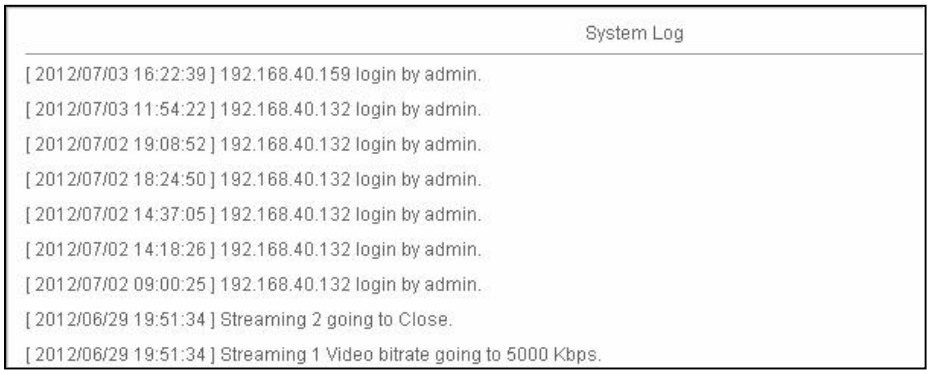
(i) OnOff Switch: The camera triggers the external devise and lasts for 10 seconds. You can turn off the alarm manually by click "off" at the right bottom of the live video page.

(ii) Time Switch: The camera triggers the external devise and lasts for certain of time according to the interval setting, and the user is not allowed to break off the alarm manually.

4. Log List



Sort by System Logs, Motion Detection Logs and I/O Logs. In addition, System Logs and I/O Logs won't lose data due to power failure.



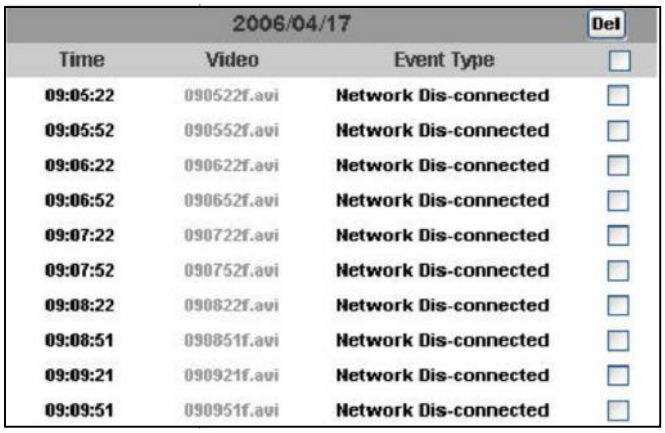
LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)

5. SD card

a. Playback

Please Insert Micro SD card before use it. Make sure pushing Micro SD card into the slot completely.

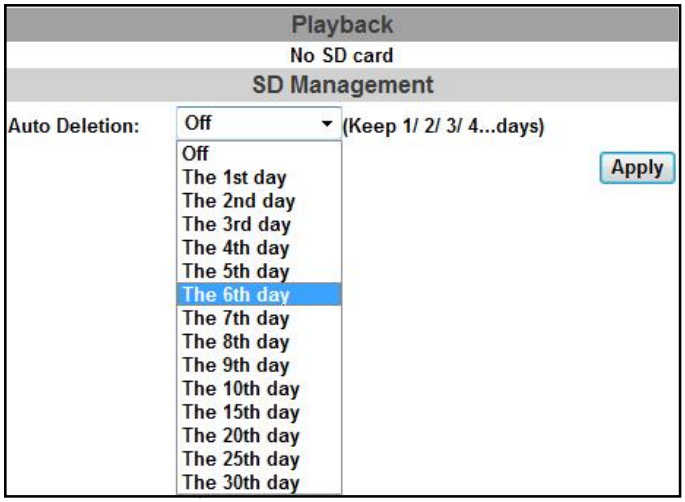
Click the date listed on this page, and it shows the list of the video. The video format is AVI. Click the video to start Microsoft Media Player to play it. To delete the video, check it, then click "Del".



b. SD Management

Choose “The 1st day” means the recoding file will be keep one day. Example: It is five o’clock now. Choose “The 1st day”. The files will be kept from five o’clock yesterday to five o’clock today.

The oldest file will be deleted if the Micro SD card is full.



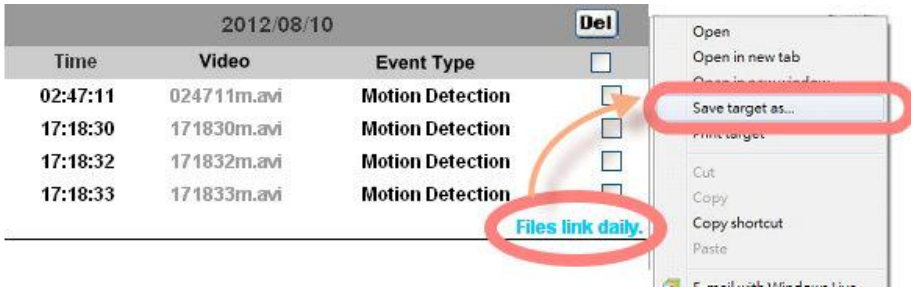
Note：The use of the SD card will affect the operation of the IP Camera slightly, such as affecting the frame rate of the video.

c. Copy to PC

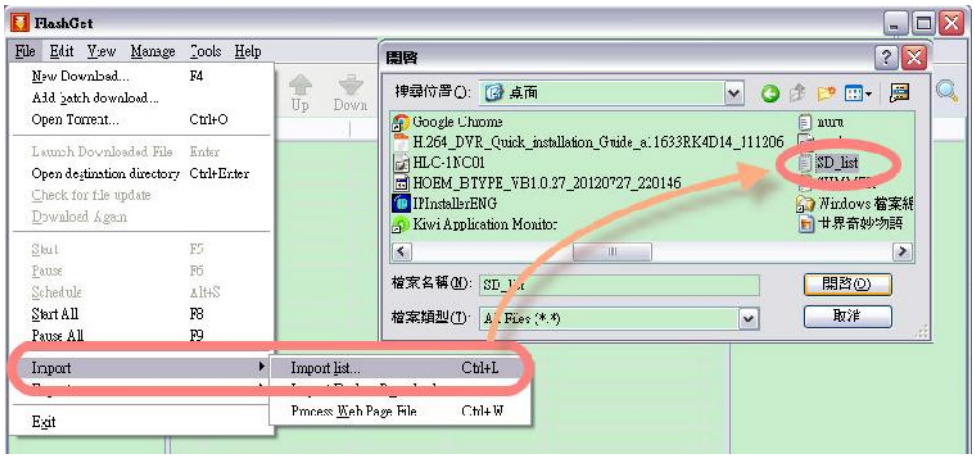
You can insert the Micro SD card to PC and read the files directly, or use FlashGet instead to download the files from IP camera. (In this way you do not need to pull out Micro SD card from the camera.)

To use FlashGet for downloading the image and video data from the Micro SD card, please follow the steps:

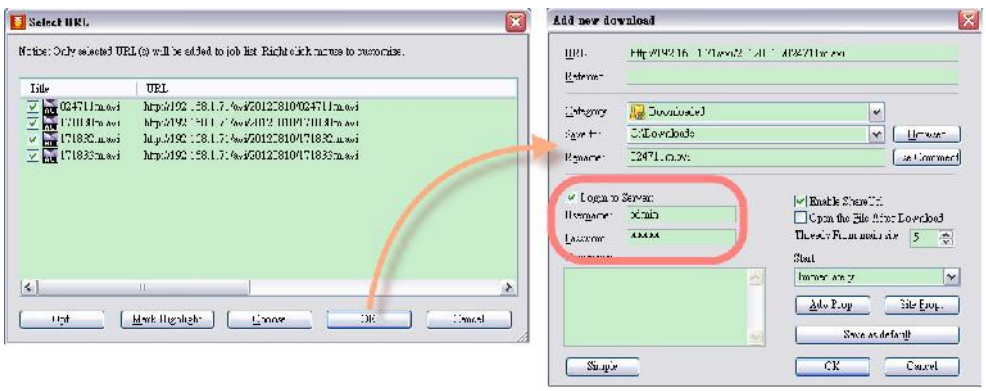
(i) Enter the data list and right-click "Files link daily", select "save target as..." to save the link list to PC.



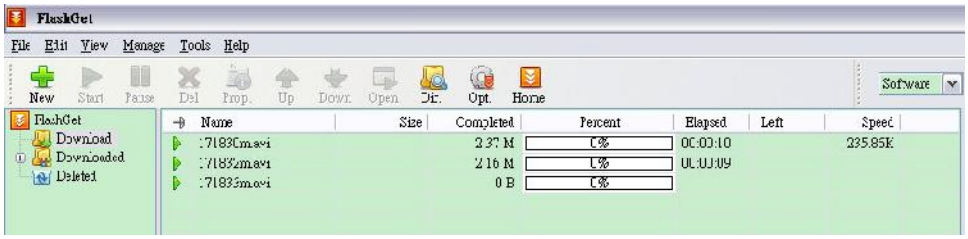
(ii) Open FlashGet, select "File" → "Import" → "Import list", and find the link list file you just saved. The file name may be called "SD_list".



(iii) FlashGet will show you the link list, and you can tick the files you want to copy to your PC. Give the directory path in the new download window, and remember to enable "Login to Server": key in the IP Camera username and password.



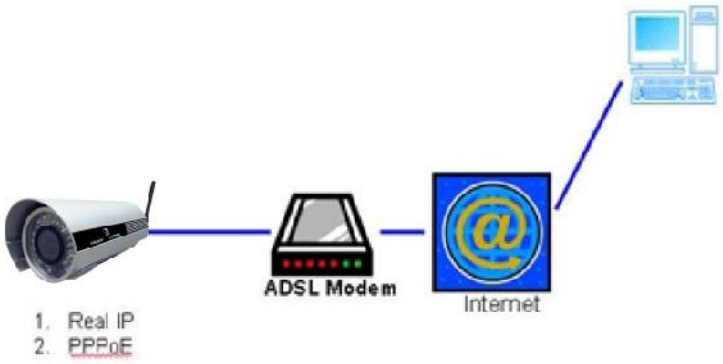
(iv) Click OK to start download.



- FlashGet is a free software that can be downloaded from FlashGet official website. The example above is based on FlashGet ver.1.9.6.

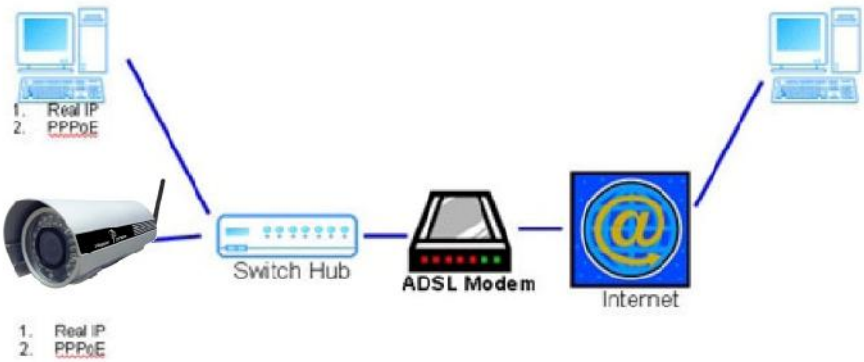
VI. Network Configuration

- Configuration 1:



a. Internet Access: ADSL or Cable Modem
b. IP address: One real IP or one dynamic IP
c. Only IP Camera connects to the internet
d. For fixed real IP, set up the IP into IP Camera. For dynamic IP, start PPPoE.

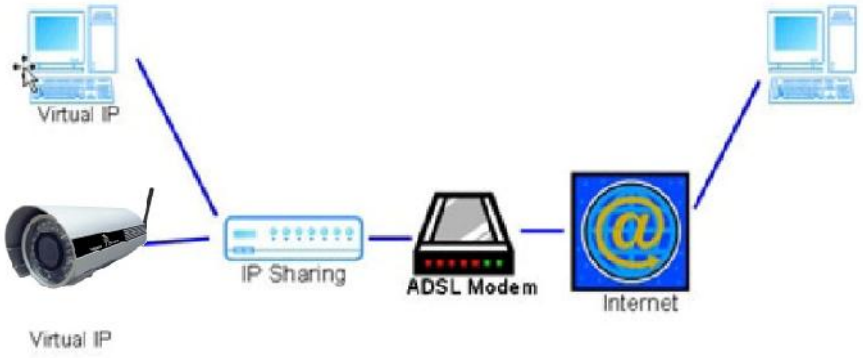
- Configuration 2:



LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)

a. Internet AccessL: ADSL or Cable Modem
b. IP address: More than one real IP or one dynamic IP
c. IP Camera and PC connect to the internet
d. Device needed: Switch Hub
e. For fixed real IP, set up the IP into IP Camera and PC. For dynamic IP, start PPPoE.

- Configuration 3:



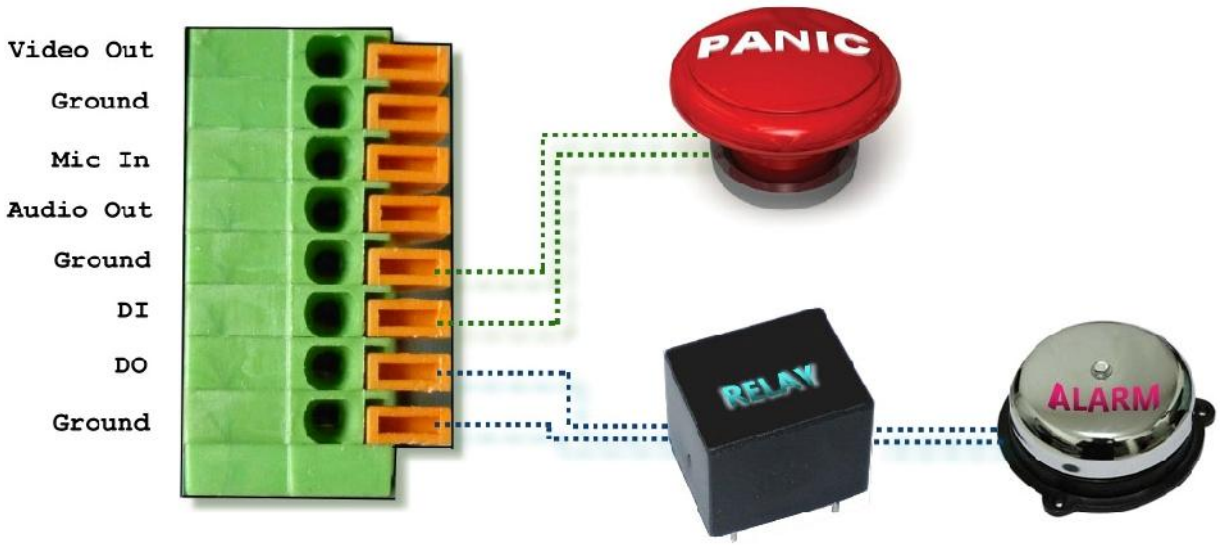
a. Internet Access: ADSL or Cable Modem
b. IP address: one real IP or one dynamic IP
c. IP Camera and PC connect to the internet
d. Device needed: IP sharing
e. Use virtual IP, set up port forwarding in IP sharing.

LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)

VII. I/O Configuration

1. I/O Connection

a. Please connect the GND & DO pin to the external relay (buzzer) device. Please connect the GND & DI pin to the external trigger device.

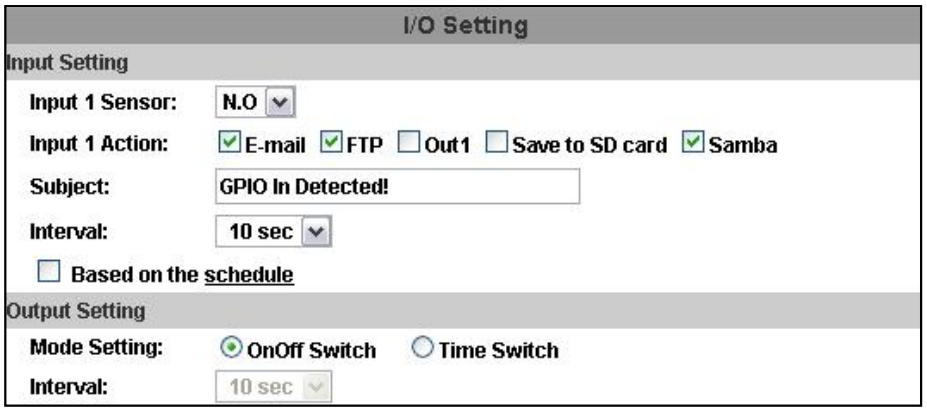


b. I/O PIN definition

- GND (Ground): Initial state is LOW
- DO (Digital Output): DC 5V
- DI (Digital Input): Max. 50mA, DC 5V

2. I/O Setup

a. Click I/O Setting from the system setup page via IE, and check “Out1” to enable I/O signal.


I/O Setting
Input Setting
Input 1 Sensor: N.O
Input 1 Action: E-mail FTP Out1 Save to SD card Samba
Subject: GPIO In Detected!
Interval: 10 sec
Based on the schedule
Output Setting
Mode Setting: OnOff Switch Time Switch
Interval: 10 sec

b. Output Test

After the external input and output hardware is installed, you can use the

"Relay Out" bottom on the live video page to test if DO / Relay Out works.

(i) OnOff Switch mode:

Click "ON", the camera will trigger the external output devise for 10 seconds. For example, your alarm buzzer will continuously ring for 10 seconds. After 10 seconds the buzzer stops ringing, or you can manually break off the output signal by clicking "OFF".

(ii) Time Switch mode:

Click "Pulse", the camera will trigger the external output devise for several seconds, The duration length is according to the "interval" setting in Output Setting.

LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)

VIII. Factory Default

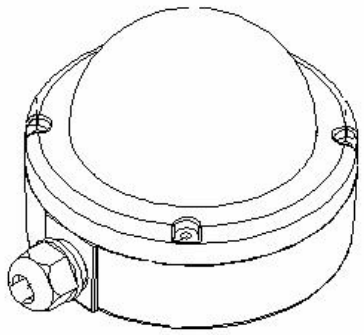
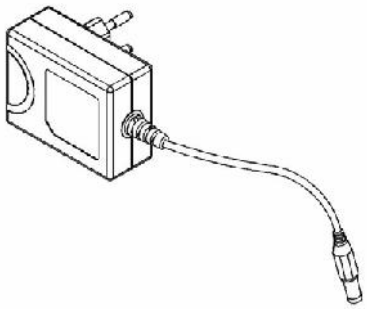
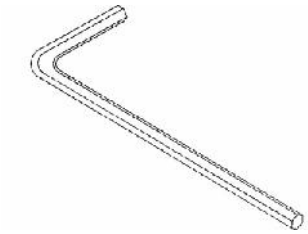
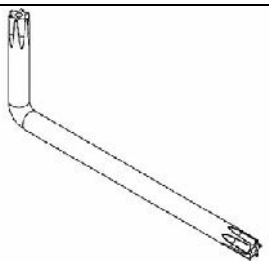
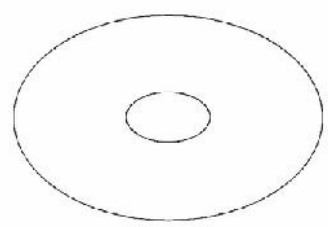
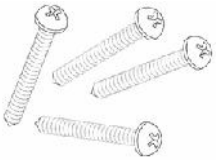
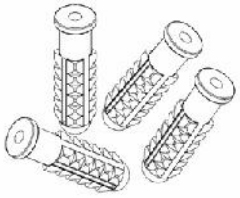
If you forget your password, please follow the steps to revert back to default value.

- Remove the power and ethernet cable. Press and hold the button as the picture below.

- Connect power to the camera again, and do not release the button during the system booting.
- It will take around 30 seconds to boot the camera.
- Release the button when camera finishes proceed.
- Plug in the ethernet cable. Re-login the camera using the default IP (http://192.168.1.200), and user name (admin), password (admin).

LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)

IX. Package Contents

IP Camera	Adaptor	Quick Installation Guide
		
Hex Wrench	Star Wrench	CD
		
Screws x4	O-ring x4	Wall Plug x4
		

- Adaptor: AC100-240V DC12V/1A
- The CD includes User manual and software tools.

LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)

X. Micro SD Card Compatibility

The following is the Micro SD Card recommended:

Transcend	SDHC	class4	16GB
	SDHC	class4	32GB
	SD	class4	16GB
	SD	class4	32GB
	SDHC	class6	4GB
	SDHC	class6	8GB
	SDHC	class6	16GB
	SD	class6	4GB
	SD	class6	8GB
	SD	class6	16GB
	SDHC	class10	4GB
	SDHC	class10	8GB
	SDHC	class10	16GB
SanDisk	SDHC	class4	4GB
	SDHC	class4	8GB
	SDHC	class4	16GB
	SDHC	class4	32GB

LINKCOM
Tél: +33 (0)1 40 831 313 / Fax: +33 (0)1 46 317 675 / 11 rue du Soleil Levant 92140 Clamart (FRANCE)